

PACIFIC PULP *and* PAPER INDUSTRY

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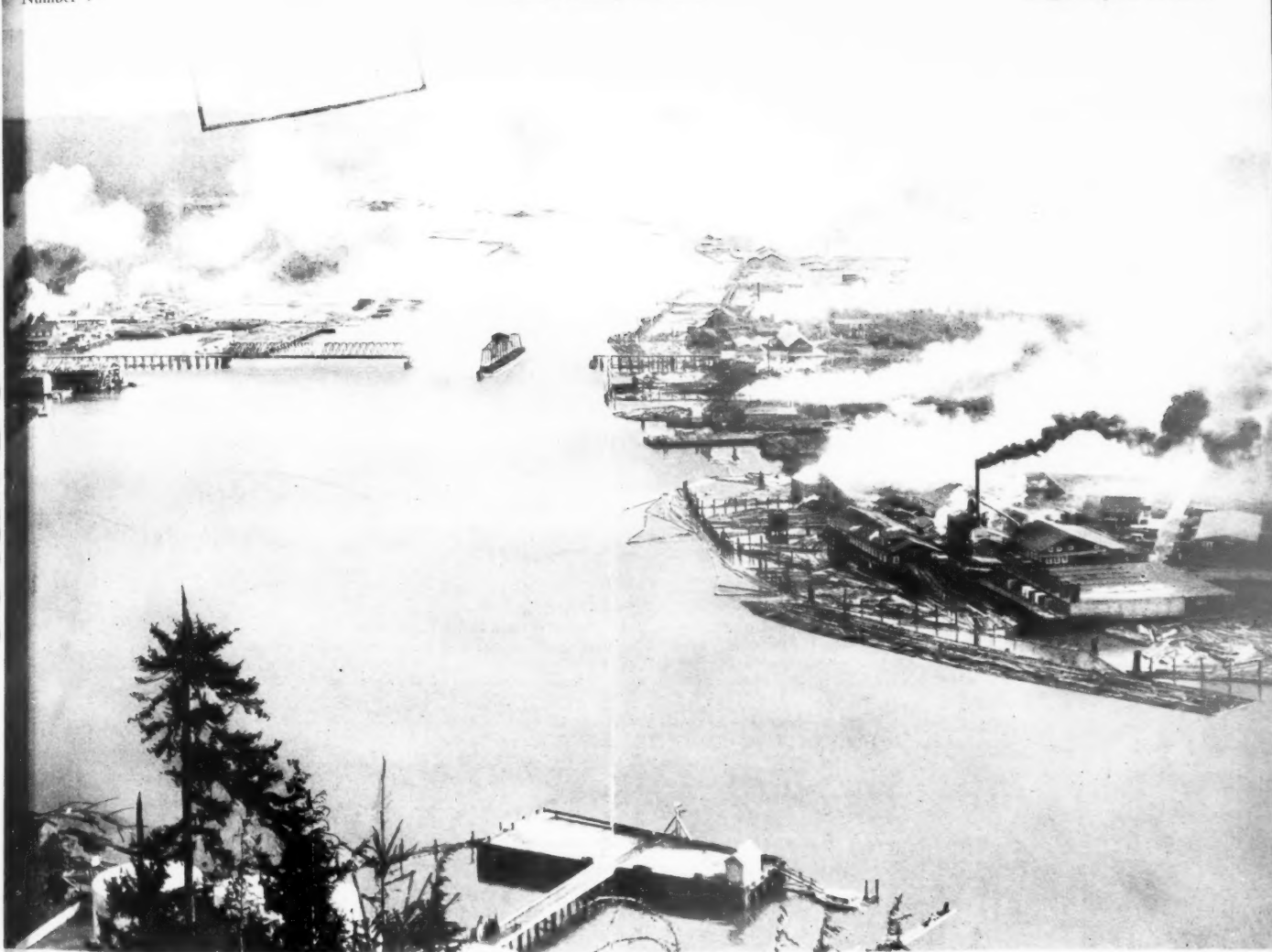
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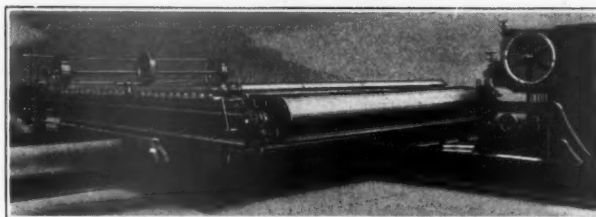
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NEW YORK

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Devoted to the Paper Manufacturing Industries of the Western States, Alaska and British Columbia

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Vol. I.

APRIL, 1927

Number 3

Grays Harbor Has Many Advantages For Pulp and Paper Industry

By J. J. CLOUD

THE point at which the west begins depends largely on where you happen to live. People in New York are almost all under the impression that Manhattan Transfer is away out west; and they are absolutely certain that the sun sets somewhere in Ohio. There may always be this confusion about the beginning of the west, but there can be no dispute about the fact that Grays Harbor is out where the west ends.

Beyond Grays Harbor there are only 6000 watery miles between the United States and China; but this point where the west ends is where continued and increasing profit for the pulp and paper industry is about to begin. Work on the site for Grays Harbor's first paper mill, one of the Zellerbach plants, was begun last month. This plant, it is said, will have a daily capacity of 125 tons. There is room and material here for at least five plants of double this capacity.

Grays Harbor is made up of three industrial sites, Aberdeen, the largest, with a population of more than 20,000; Hoquiam, four miles to the westward, and Cosmopolis, the little brother of the other two. The population of the three is 45,000. These cities are so merged together that their boundary lines are indistinguishable to the stranger, making an area of nearly 12 miles in length with the appearance of a single community.

The port of Grays Harbor has the distinction of shipping more lumber annually than any other port in the world. It is little more than a dozen miles from the ocean and three days nearer the Orient than any other port in the United States. Although its latitude

is a great deal farther north than that of New York, it has the most mild and evenly tempered climate of any part of the United States. The warm Japan current washing the western fringe of America keeps it warm in winter, while its northern situation makes for cool summers. Usually the temperature ranges between 45 and 60 degrees. Rarely is there a winter day colder than 25 degrees or a summer day warmer than 90 degrees. Grays Harbor lies midway between Portland, Oregon and Puget Sound.

A little more than 20 years ago the communities of Grays Harbor were built up on stilts above the tidelands. Water ran under the planked streets. Today each of these cities has miles of paved streets and hundreds of beautiful homes. Each has a modern, thriving business section.

Yet within a few miles of these modern cities are the vast virgin forests of the Olympic Peninsula. Here is a region of forest and mountain scenery which is hardly rivalled in its grandeur anywhere else in the world. Mile after mile of virgin timber, fir, hemlock and spruce standing straight and tall. Swift streams carrying an immense volume of water from the high peaks of the Olympic Mountains. Glaciers and waterfalls of rare magnificence. Vistas of wide valleys where an empire of the future is being builded.

How this vast country can be turned to the benefit of the American pulp and paper industry can only be sketched briefly in an article as short as this; but every resource needed for the development of such an industry can be found in Grays Harbor. In territory directly tributary to Grays Harbor there are 50 mills cutting fir, hemlock and spruce; 24 of these mills are

within the boundaries of the three Grays Harbor communities; and the rest are within a radius of 20 to 50 miles.

Last year Grays Harbor shipped more than one and one-half billion feet of lumber. About one-third was shipped to foreign countries, nearly one-half to other Pacific Coast ports principally in California, and the remaining sixth to the East coast. At the present time the stand of old growth timber directly tributary to Grays Harbor is larger than any other easily accessible stand in the United States.

The old growth timber in this stand totals 33,317, 781,000 f. b. m. Besides this old growth there is now a second growth amounting to nearly six billion feet on cut-over lands. This second growth has illustrated more clearly than anything else could have done the certainty that reforestation will give Grays Harbor a continual supply of timber suitable for pulp wood throughout all time. A very considerable amount of timber and territory available but not directly tributary to Grays Harbor is not included in the above figures.

In considering reforestation in this section of the country, it must be remembered that timber grows more quickly here than in any other section of the United States. Trees of 18 inch diameter have been found frequently in second growth stands less than 30 years old. Marketable timber in thirty years and timber suitable for pulp and paper in less than 25 years are proven possibilities. This means that there will be no gap between the time when the present pulp wood supply begins to dwindle and the time that supplies from new growth become available.

The definite adoption of reforestation in this locality is assured by the fact that much of the territory here is suitable only for timber growth. On the other hand, there is a large agricultural area and a steadily growing agricultural population chiefly pursuing dairying, poultry-raising and berry-raising and beekeeping which will help to supply the food for the industrial cities of the future.

The two other factors which enter most largely into the establishment of a pulp and paper industry—power and water—are found in ideal circumstances on Grays Harbor. A large water project by which 60,000,000 gallons of industrial water daily will be placed at the disposal of the manufacturers will be begun shortly by the city of Aberdeen. This project is capable of almost unlimited expansion.

Power far in excess of present manufacturing needs can now be supplied by a steam plant operated by the Grays Harbor Railway and Light Company. At the present time plans are being made for a huge hydroelectric development on the Cowlitz River which will be capable of supplying more electric power than the pulp and paper industries of the Northwest could possibly consume.

Besides the ocean traffic of Grays Harbor, the port is the terminal of three transcontinental railroads, the Chicago, Milwaukee and St. Paul, the Northern Pacific and the Oregon-Washington Railroad and Navigation Company. This assures adequate transportation facilities to any part of the world.

Grays Harbor now has a total population of around 45,000. It is planned to increase this population to more than 100,000 within five years. New industries are constantly being secured to manufacture wood products. These communities offer opportunities for canneries, silk mills and other textile mills and for numerous small electrically operated plants. Each year a large number of farm holders are being settled in the territory adjacent to Grays Harbor, and each year sees the building of new homes, stores and office buildings.

It is hardly possible to give a picture of this rapidly growing community that will convey the delight and wonder of living in a country which is forging continually ahead; but here in the very end of the West is an opportunity to take part in the development of America's greatest empire. It is an opportunity to grow with a growing country—to create from the virgin wildness a vast community of happy people.

F. N. Youngman Impressed by West

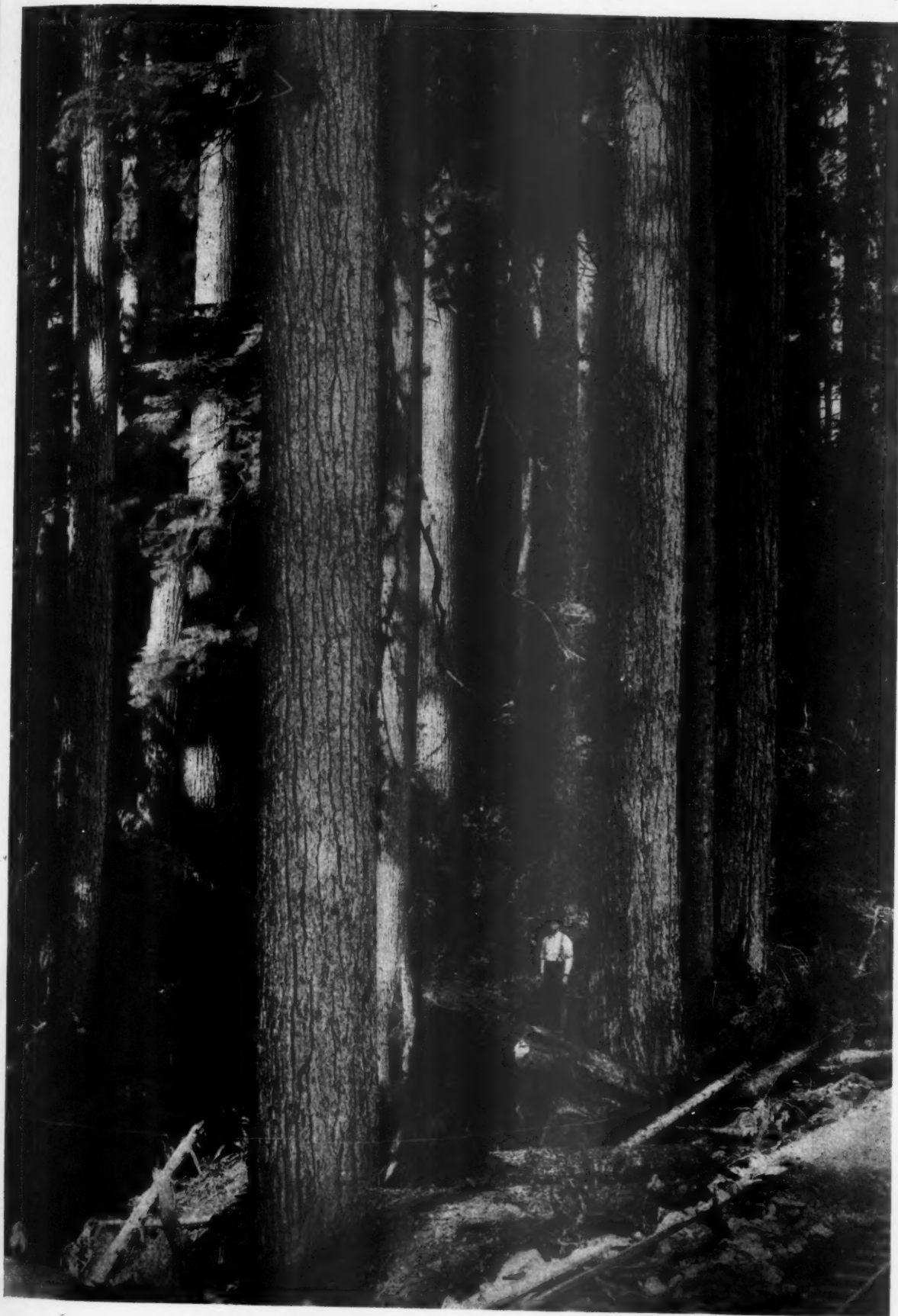
Frank N. Youngman, vice-president of the Canadian Crown Willamette Company Limited, and manager of the Pacific Mills Limited plant at Ocean Falls, B. C., having come to the coast from The Thunder Bay Company near Port Arthur, Ontario, is much impressed by the West, although he has not had time to reach any definite conclusions regarding future development.

Pulp Timber—

See page 45



Coastwise and Foreign Vessels Loading Lumber at Grays Harbor Mills



A Section of 39,000,000,000 Feet of Standing Timber Tributary to Grays Harbor

Report Shows Crown Willamette Financial Standing High

THE annual report of the Crown Willamette Paper Company, issued by Louis Bloch, president, on February 26, 1927, marks the close of a year of very profitable and progressive development. This company was organized under the laws of the State of Delaware on January 6, 1926, and acquired the assets and liabilities of the Crown Willamette Paper Company (a Maine corporation), as at January 1, 1926.

The plants, equipment and timber lands were acquired at this time on the basis of appraisals of independent appraisers, and the investment in the Pacific Mills, Limited (a British Columbia company), was acquired at the book value as shown by its balance sheet as at December 31, 1925.

During 1926, forward strides were made in production, both in plants already constructed, and in entirely new units. The principal addition during the year was the new Kraft pulp mill at Camas, Washington, which has been in full and profitable operation for several months. Expansion also took place in already existing mills. A new paper unit of the Pacific Mills, Limited, is being constructed, and will soon be in operation.

Dividends declared amounted to \$350,000, and at the same time \$200,000 par value of the company's bonds were retired in accordance with the provisions of the Trust Deed. At the close of the period under review, the company had current assets of \$9,306,092.61 or more than two and a half times the current liabilities of \$3,399,239.65.

In Mr. Bloch's letter to the stockholders, he states, "The results of operation for the year 1926 were very satisfactory and, as will be seen from the attached summary, the net profit of your company and wholly owned subsidiaries for the year was \$2,664,393.60. This figure is exclusive of any portion of profit of Pacific Mills, Limited, in which your company was a stockholder to the extent of 66 per cent of the preferred, and 92 per cent of the common stock at December 31, 1926, and a summary of its profit and loss account for the year are submitted herewith for your information. From these statements you will note that the proportion of the net profits for 1926 applicable to stock owned by your company, but undistributed, amounts to \$740,667.40, though this amount may be subject to some reduction for the United States federal income taxes when distributed."

Gross profits of the company amounted to \$5,740,854.16, and after payment of taxes, bond interest and charging depletion and depreciation, the net profit was \$2,664,393.60. Total assets are given as \$61,644,082.61, of which \$39,972,588.63 are capital assets less reserve for depreciation. Total investments are shown as \$12,116,505.41, the chief item being \$11,318,601.44 invested in the Pacific Mills, Limited. After payment of dividends on first preferred stock, the earned surplus was \$1,392,641.93, which is equivalent to more than \$1.39 per share on the 1,000,000 shares of no par value common stock.

In speaking of the new year, Mr. Bloch said in his letter: "With regard to future prospects I am pleased to

inform you that the full newsprint output of the Crown Willamette Paper Company and Pacific Mills, Limited, has been covered by contract for the years 1927 and 1928 at the same price as prevailed during 1926, and the bulk of our citrus fruit wrapping paper is under contract for the next five years."

The balance sheet is shown herewith.

BALANCE SHEET, DECEMBER 31, 1926

ASSETS			
Current Assets:			
Cash	\$	1,627,795.36	
United States Government bonds		1,014,993.12	
Accounts and notes receivable		2,534,797.53	
Employees accounts		19,440.85	
Inventories		4,109,065.75	\$ 9,306,092.61
Investments:			
Owned and affiliated companies:			
Pacific Mills Ltd., approximately 88% owned	\$11,318,601.44		
Wholly owned companies	742,403.97	\$12,061,005.41	
Miscellaneous investments		55,500.00	12,116,505.41
Advances to Owned Companies			104,429.25
Sinking Fund With Trustee			6,830.00
Capital Assets:			
Land	\$	1,568,253.32	
Timberlands, less depletion		16,155,206.74	
Water-rights and patents, less amortization		40,928.41	
West Linn water power lease, less amortization		2,315,643.40	
Buildings, machinery and equipment	\$20,857,144.51		
Less Reserve for depreciation	964,587.75	19,892,556.76	39,972,588.63
Deferred Charges to Future Operations			137,636.71
			\$61,644,082.61
LIABILITIES			
Current Liabilities:			
Drafts payable	\$	70,000.00	
Accounts payable		1,164,349.89	
Due to stockholders		80,920.00	
Current accounts with owned or affiliated companies		399,154.55	
Bond interest accrued		594,000.00	
State and County taxes accrued		348,736.46	
Provision for Federal income taxes		392,078.75	
Dividends declared		350,000.00	
			\$ 3,399,239.65
First Mortgage Sinking Fund 6% Gold Bonds, dated January 1, 1926:			
Authorized		\$25,000,000.00	
Issued		\$20,000,000.00	
Less Redeemed and Cancelled		200,000.00	19,800,000.00
Notes Payable Due Stockholders Yearly, 1928 to 1934			1,428,000.00
Due to Wholly Owned Companies			171,050.00
Reserve for Contingencies			280,000.00
Capital and Surplus:			
Stated capital		\$28,382,300.00	
Initial surplus		6,790,851.03	
		\$35,173,151.03	
Earned surplus		1,392,641.93	36,565,792.96
Represented by:			
200,000 shares no par value first preferred \$7.00 per share cumulative.			
41,000 shares no par value second preferred \$6.00 per share cumulative from January 1, 1928.			
1,000,000 shares no par value common.			
			\$61,644,082.61

Mill May Be Built at Onalaska

Onalaska, Washington, it is reported, is being considered as a location for a pulp mill.

Investment—

See page 45

Max Oberdorfer Believes In Training— He Started Early

TWENTY-TWO or three years ago a young man graduated from a German university and entered the pulp and paper field. He had trained himself for this work, and it was to his liking. But on completing his scholastic course, he did not cease to study. Ever since that time he has continued his research, and through this and his inherent love of the industry, has become one of the finest paper men in this country. This man is Max Oberdorfer, now manager of the new St. Helens Pulp and Paper Company of St. Helens, Oregon.

Mr. Oberdorfer's first experience in the pulp and paper field was obtained in Germany, at the Upper Bavarian Sulphite and Paper Mills. Here he worked for two years, adding to his foundation in the fundamentals of the industry. At the end of this time there came the urge to come to the United States, where the field was younger and the resources great.

Many Years In Michigan

His first connection in this country was with the Central Paper Company of Muskegon, Michigan. He remained here for ten years as manager of the mills, and then became associated with the Filer Fibre Company of Manistee, Michigan. Ten years as manager here, with continual research and study in the problems of the business earned for him a reputation. When the St. Helens Pulp and Paper Company was organized and construction about to be started, the executives of the company searched the country for a man to take charge of the new plant, and Mr. Oberdorfer was chosen.

In spite of his long association with the American industry, he has kept in touch with developments in Europe and other sections of the world. He knows what changes have taken place in the past in Germany, and can gauge the likely course of events in the younger industry of the United States. Relative to this, Mr. Oberdorfer said when interviewed: "The condition in the East is now very similar to that of Europe twenty-five years ago. The pulpwood supply is dwindling away, and it has been necessary to resort to drastic methods of utilizing every stick of wood, and of reforestation. In Germany, raw material is high and labor is cheap. In this country, the situation is just the opposite, raw material in most sections being comparatively cheap and labor comparatively high. Thus the cost of production is somewhat equalized in the two parts of the world. However, machinery has been improved to such an extent that in this country it is now possible to turn out more pulp with the same labor, thus cutting down the labor cost considerably."

Train the Young Men

As to the training of young men in the industry, Mr. Oberdorfer has decided views. He believes strongly in adequate training schools and in the voluntary service system. "The Europeans are far ahead of us in this country as far as training schools are concerned,"

he said. "The universities there give special attention to training the young men in the industry. When they graduate they really know something about the chemical and mechanical processes involved. Of course, it is hard to obtain professors in this country who have had a sufficient background in this field, but a greater effort in this direction should be made. Moreover, there they have what is called a "voluntary service system," whereby the graduates who plan to go into the pulp and paper field, work for a year in the mills without remuneration. This is hard on those who have



MAX OBERDORFER

poor finances, it is true, but it gives the best possible training. The young men work in all the various departments from the ground up, and when their year is done, they are ready to take responsible positions. Such a system in this country would produce many efficient paper men, and is well worth considering."

Conservation of our timber resources is another phase which should receive the utmost consideration, Mr. Oberdorfer believes. "There does not seem to be much likelihood of a process for using fir for sulphite pulp being evolved. Thus those manufacturing sulphite pulp must look to other sources for future raw material, and leave the immense stands of fir, and the large amounts of fir waste for lumber and for kraft pulp. Our stands of timber are not inexhaustible, and we must practice conservation, or our industry will not prosper. The fire hazard is very bad and must be

(Continued on page 32)

Northwest Mineral Deposits Suitable For Pulp and Paper Making

By MILNOR ROBERTS

Part II

ATENTION is called to the possibility of using diatomite in the paper-making process. Certain of the beds of diatomite in Oregon and Washington are very white, a characteristic which, coupled with their extreme fineness of grain, might permit of their use for this purpose, provided the addition of weight was not necessary.

The mineral talc occurs at a number of points in the Northwest, but up to date it has not been in much demand and only a little exploration has been done on the deposits. In the areas of older rocks conditions are favorable for the occurrence of talc, and with the spread of the news that deposits are wanted the chances are that useful ones will be staked. The difficulty is to find the mineral in masses of commercial size that are free from other minerals and rocks that would yield grit. While the washing of talc to free it from sandy grains is feasible, the advantage of a source that is naturally pure can readily be understood.

Lacustrine Deposits in Northwest

The arid regions in the eastern portions of Washington and Oregon in common with other parts of the Great Basin region contain alkaline lakes and lacustrine deposits in which sodium carbonate and sulphate are found. Plants have been erected in Eastern Washington for treating the crude salts and some production of both soda ash and sodium sulphate has been made. This source of raw supply will probably prove useful in future. Certain other chemical substances such as bleaching powders, that are used in the pulp and paper industry are usually made in manufacturing centers in connection with other products. While it would be advantageous to have them made near at hand, the absence of such production in this region would not hinder the industry.

Failures in Development

The industrial development of the Northwest has not taken place without many failures. If the history of the development of nations is worth studying for the purpose of profiting by man's political experiences, then in the world of industry it is equally important to examine the record of what has taken place. The phrase "examine the record" is one that is commonly used in legal and financial investigations, but unfortunately it does not begin to cover the needs of the mineral industry, for the reason that the failures made there are not written large on the record, but are hidden or at least dwarfed by the successes.

The type of failure that this article should bring to notice is the one that is due to an improper conception of the mineral deposit on which some industry is to depend in a greater or less degree. Extreme examples could be quoted in which the enterprise as a whole depended upon a mineral deposit, and since the size or perhaps the quality of the deposit was overestimated, the entire enterprise failed. Under this group could

be listed several coal and metal mines, limestone deposits, and quarries of various kinds of stone. The financial losses that have resulted directly have ranged from thousands of dollars to many millions. Indirectly, the loss has fallen on many people whose careers were more or less associated with the enterprises; homes have been made, only to be broken up shortly; stores and towns have been erected, all predicated on the success of a venture that had a weak foundation.

Local Supply Only One Factor

Other examples could be given in which the local supply of mineral was only one of several important factors that would make or break the business. These cases correspond more clearly to the conditions likely to prevail here in the pulp and paper industry. A faulty investigation that would result in the business being made dependent upon a mineral supply that proved inadequate in some respect, might not wreck the company but might cause a serious loss to both the capital and operating funds. To find a new source of mineral supply is usually possible, but the change is likely to bring an increase in the cost of production.

The reason for the disappointing results has always been the same, namely, failure to study the mineral deposit with all possible care before assuming its dependability as a source of supply. Such a study is a highly technical matter, yet many times in the past the adoption of a deposit in this region has been made not on the basis of the facts, but on the opinion of purchasing agents, promoters, lawyers, doctors, civil and mechanical engineers, manufacturers, managers and even stockholders. Examples of all these cases have fallen within the writer's personal knowledge.

Facts Not Always Known

If a glaring error in business judgment of the kind just described were to take place, let us say, in the selection of a building site in a city and the construction of a building upon it, the error would become known before long to at least some people, but the circumstances under which an industry is set up in a region distant from centers of population are such that the detailed facts do not become generally known for some time, and certain of them are never made public. Sources of mineral supply often are situated in out-of-the-way places where there is no settled population and where visitors are few and far between. Publicity is often considered unfavorable and the press has little reason to discuss the operations taking place. Coupled with these points is the fact that companies with Eastern headquarters often send men from the East into the wilds of the Northwest to make examinations and carry on operations. While these men are experienced in the principles of their work as applied elsewhere, they know nothing of the conditions of geology, topography, timber, climate, etc., in the region to which they are

(Continued on page 32)

Hawley Report Marks Progress

THE financial report issued by W. P. Hawley, president of the Hawley Pulp and Paper Company of Oregon City, Oregon, shows the result of very satisfactory and profitable operation for the last six months of 1926. This company was organized under the laws of the State of Delaware, July 1, 1926, acquiring the capital stock of the Hawley Pulp and Paper Company, an Oregon corporation.

Net earnings available for interest on first mortgage bonds, after deducting depreciation and federal income taxes, amounted to \$295,093, or more than 4.4 times the bond interest requirements. After deducting bond interest, such earnings were more than three times dividend requirements of the first preferred stock. The net profits for the six months period, from July 1 to December 31, 1926, were \$211,453.39.

In Mr. Hawley's letter to the stockholders of the company, he states, "Our leased water rights appraised at a value of \$263,200 are being amortized so as to be completely written off at the expiration of the leases at which time we have the privilege of renewing these leases.

"Pursuant to arrangements made at the time the properties were acquired by your company, Mr. V. D. Simons, paper mill engineer of Chicago, has made a complete engineering survey of the entire properties, and a detailed report covering this survey will be ready during the latter part of April, 1927. As a result of Mr. Simons' preliminary report certain improvements to the No. 4 paper machine have already been decided upon, which when completed, will increase the daily capacity of your plant from 120 to 150 tons of finished paper per day.

"Our contracts for newsprint have been renewed for the year 1927 at the same price as prevailed during 1926. All grades of paper produced by your company are distributed by the Graham Paper Company, of St. Louis, who are sole selling agents.

"It will be noted that, at the close of this six months under review, your company had current assets to the extent of more than two and three-fourths times its current liabilities, exclusive of United States Liberty

Bonds in the amount of \$500,057.25, purchased from proceeds of financing and held in a special fund to meet the expenditures for improvements."

The balance sheet as of December 31, 1926, is shown herewith:

BALANCE SHEET, DECEMBER 31, 1926

ASSETS			
Current Assets:			
Cash	\$	249,161.28	
United States Liberty Bonds		470,397.78	
Accounts and notes receivable		274,578.18	
Inventories		503,647.88	\$1,497,785.12
Investments in Stocks of Other Companies			108,098.30
United States Liberty Bonds Held for Additions and Betterments			500,057.25
Capital Assets:			
Land	\$	592,690.91	
Water rights		329,500.00	
Water right leases, less amortization		258,582.46	
Buildings, machinery and equipment	\$3,163,350.47		
Less Reserve for depreciation	77,263.08	3,086,087.39	
Timberlands		2,131,625.50	
Leasehold of magnesite property		7,665.51	6,406,151.77
Deferred Charges to Future Operations			217,954.36
			\$8,730,046.80
LIABILITIES			
Current Liabilities:			
Notes payable to stockholder	\$	59,000.00	
Accounts payable and accrued items		179,789.84	
Bond interest accrued		64,500.00	
State and County taxes accrued		91,497.85	
Reserve for United States Income Taxes		80,090.32	
Dividends payable		47,000.00	\$ 521,878.01
Reserve for Employees' Hospital Fund			16,948.05
Reserve for Contingencies			15,000.00
First Mortgage 20 Year Sinking Fund 6% Gold Bonds, Dated July 1, 1926:			
Authorized	\$3,000,000.00		
Issued			2,150,000.00
Capital and Surplus:			
Stated capital	\$4,116,091.79		
Initial surplus	1,792,675.56		
	\$5,908,767.35		
Earned surplus		117,453.39	6,026,220.74
Represented by:			
20,000 shares of First Preferred Stock (no par value) with cumulative dividends at the rate of \$7.00 per share per annum.			
8,000 shares of Second Preferred Stock (no par value) with cumulative dividends at the rate of \$6.00 per share per annum.			
200,00 shares of Common Stock (no par value).			
			\$8,730,046.80

Lawrence Killam Leaves for Orient

Lawrence Killam, president of the B. C. Pulp and Paper Company, with offices at Vancouver, B. C., sailed for the Orient in March on the steamer Empress of Russia, for an extended business trip. During his absence of several weeks Mr. O. A. Jorgenson, treasurer and assistant manager of the company, will be in charge of the company's affairs.

Jorgenson in B. C. Eleven Years

Prominent in the pulp and paper industry in British Columbia today is Mr. O. A. Jorgenson, treasurer and assistant manager of the British Columbia Pulp and

Paper Company, Ltd. Mr. Jorgenson has been connected with the industry in British Columbia for the past eleven years and is familiar with all details of the pulp and paper business in British Columbia. Before coming to the Coast, Mr. Jorgenson was agent for the Canadian Pacific Railway at Ottawa, Ont.

Water Power—

See page 45



The Everett Pulp and Paper Company Mill Is a Pioneer of the Industry in Washington

Everett Pulp & Paper Company Builds For Quality Production

THE Everett Pulp & Paper Company, located at Lowell, Washington, a suburb of Everett, is one of the few mills on the Pacific Coast that specializes in book and writing papers, made by the soda process. Not only is this mill the largest producer in this specialized field, but represents the first venture of the paper and pulp industry in Washington. It was built in 1891.

William Howarth, president and treasurer, and A. H. B. Jordan, vice-president and superintendent, are at the helm, and to the enterprise and aggressiveness of these far-visioned pioneers, the industry of the Pacific Northwest owes much.

The company was first organized under the name of The Puget Sound Pulp & Paper Company, and started to manufacture book, writing, wrapping and specialties in 1892 by the soda process. The plant consisted of a soda pulp mill of a capacity of 15 tons per day, and a two-machine paper mill of equal capacity. In 1895 the corporate name was changed to the Everett Pulp and Paper Company. Two Pusey & Jones machines, with a 96 and 105 inch wire, were originally installed and are still in operation, producing 37 tons of book, label and writing paper per day made from straight soda cellulose from Douglas fir and cottonwood.

In addition to the paper mill, the auxiliary department is operating at the present time with a capacity of about 250 tons of paper per month, which is re-manufactured into composition books, note books, tablets, pads, legalcap, foolscap and other mill ruling, and various kinds of paper used for school purposes, such as drawing paper, theme paper, filing sheets, etc.

The University of Washington and the schools of Seattle and other cities of the Northwest use large quantities of these books. The entire output of this mill is marketed in the three Pacific Coast states and British Columbia.

The location of the plant is ideal—on the Snohomish River just above tidewater, and transportation facilities are of the best. Three transcontinental railroads, and coastwise steamers make Everett a point of call.

The ultra-modern plant as it is today is a far cry from the early and modest beginning in the 90's. The whaleback steamer "Wetmore", the first ship of her type to sail the Pacific waters, brought the machinery for the plant. Whaleback steamers were common enough on the Great Lakes, but it was an unprecedented experiment when the "Wetmore" was loaded with a cargo that was to be carried around the southern end of the continent and through the dangerous Straits of Magellan to an unknown port of the far distant Pacific Coast. The trip was made in 1891, and shortly after the intrepid steamer was wrecked near Coos Bay.

Many important extensions and improvements have been recently carried out at the plant. Additions to the mill buildings consist of a new machine room 50 by 324 feet two stories high, and a new paper finishing room 68 by 178 feet, also two stories, together with additions to the several pulp mill structures. All the new buildings are of modern type and built of concrete, steel and brick.

A new one machine addition for the manufacture of book paper was recently placed in operation. The new paper machine has a wire 150 inches wide, and was built by the Pusey & Jones Company of Wilmington,

Delaware. The machine has rotary screens made by the Moore & White Company, Philadelphia; the suction pumps by the Nash Engineering Company, South Norwalk, Connecticut, and a winder made by the Moore & White Company. The paper machine is driven by a sectional electric furnished by the General Electric Company. This drive is of the regulator type and has Falk gears connecting the motors to the paper machine rolls.

The Triplex Stock pumps were furnished by the Beloit Iron Works, and three motor driven Jordan engines by E. D. Jones & Sons Company. The crane and hoisting equipment for the new machine room was furnished by F. M. Blethen, Hazelton, Pennsylvania. The new machine and finishing rooms were provided with heating and ventilating equipment as well as vapor absorption system by the J. O. Ross Engineering Corporation. The surplus white water from the new paper machine is reclaimed with a Save-all furnished by the Dorr Company. In the finishing room is installed a motor driven Web Calendar supplied by the Norwood Engineering Company, Florence, Mass., and three rotary cutters with layboys by the Maxson Automatic Machinery Company. A direct connected electrically driven roll grinder of the latest type was furnished by the Farrell Foundry and Machine Company, Ansonia, Connecticut.

The Norwood calendar, highly important in a plant producing finished papers, has the dependableness backed by thirty years of Norwood engineering experience. It has a continuous oiling system and the top and bottom boxes are removable without taking the cap off the calendar frame.

There are four new steel welded digesters in the soda pulp department made by the American Weld-

ing Company, Carbondale, Pennsylvania, and a new density pulp bleaching machine installed by the Stebins Engineering and Manufacturing Company, Watertown, New York.

Electric drive is used throughout the plant with the exception of two paper machines, which are driven with steam engines, with exhaust steam being used to dry the paper. Sawmill refuse is used for fuel.

The company has installed its own pumping plant for supplying the mill with water. Centrifugal pumps send the water from the Snohomish River to the settling tanks, and thence to a series of filters. Another set of pumps sends the water to all parts of the mill as needed.

Limerock is delivered by scow from Roche Harbor. This, after burning, is converted into lime, which is used to make caustic liquor for the cooking of the pulp. The rock, delivered on the dock, is broken by hand to the required size. Then a conveyor raises it to the top of the kilns, where it is dumped in at a rate that produces a ton of burnt rock every two hours. This process continues, the raw rock going in at the top of the kilns, and the burnt rock or lime coming out at the bottom. Hog fuel is used, waste secured from the Everett sawmills.

Uses Douglas Fir and Cottonwood

The mill uses Douglas fir and cottonwood timber, which is cut in the spring, when the sap is running and the bark is easily removed. The peeled logs are cut into four and a half foot lengths, and after being split into cordwood, are shipped to the plant on flat cars. Sometimes they are towed to the plant in log form and are sawed and split there. A chain carrier takes the cordwood sticks to a chipper, or hog, which reduces



The Paper Machine Is Equipped with a Ross Engineering Corporation Vapor Absorption System

the wood to chips at the rate of about ten cords an hour.

Wood from evergreen timber, when cooked, gives a long, strong fibre, while wood from the deciduous trees gives a short fibre; hence the fir and cottonwood chips are mixed to meet varying needs.

Upright, seamless steam boilers, or digesters, seven feet in diameter and twenty-eight feet high, of which there are nine, hold four cords each of chipped wood. After the digester is filled to the top with chips, a strong caustic soda solution is pumped in, the manhead bolted on, steam at a pressure of 125 pounds is forced into the boiler and the chips are cooked at a temperature of about 350 degrees Fahrenheit for six or more hours, by which time they have been reduced to a pulpy mass of cellulose fibre.

The pulp is discharged into wash pans, where the cooking liquor, now containing the resinous matter extracted from the wood, is washed with clean hot water, and returned to the chemical department where the resinous matter is burned out of it, and the soda recovered for future use.

The pulp is now pumped to the bleaching system where a liquid solution of bleaching powder is mixed with it. The pulp is bleached to the required shade of whiteness in about three hours. Draining vats now receive the pulp, where it is washed in cold water. It is then pumped into wooden tub beaters, where the necessary ingredients are thoroughly mixed. To soften the sheet and to give a smooth surface for printing, clay is put in. The required shades are obtained by the use of dyes. Resinous soap and alum are used to size the paper, the fine particles of resin coating the fibres so as to make them partly waterproof for writing purposes. Book paper, being less hard sized, does not require as much treatment as writing paper.

After emptying the beater, the paper stock is pumped to a paper machine, which runs at a speed varying from 100 to 350 feet a minute, the speed depending upon the weight of the sheet of paper to be produced. The wet web passes between heavy rolls, thus pressing out more water. It is then passed over large iron cylinders filled with steam, which dries the paper.



Sectionalized Electric Drive Viewed from the Wet End

The sheet of paper is run through the calenders, giving it a smooth finish. The paper is then cut into sheets and taken to the finishing room where it is inspected, counted and packed for shipment.

The methods of this mill in linen finishing correspondence papers are interesting. The stock, in sheets alternating with sheets of linen cloth, and separated in piles of 10 or more by steel plates, is placed under hydraulic pressure of thirty tons, and issues from this



One of the Three Jordans Supplied by E. D. Jones & Sons Co., Driven by 250 h.p. Motors.

treatment with that suggestion of a cloth surface so familiar to users of the higher class writing papers.

The paper stock travels in sheets through a machine and under a series of wire pens in the ruling process. The ink is fed from a fountain. Legal and foolscap paper is ruled in this manner. This plant uses six ruling machines. The paper, when ruled, is converted in the company's own plant into note books and school tablets, under covers made in much the same way as the finished paper. The covers are also made in the shops of the company, printed on a flat bed press, a great variety of type faces being used.

The company also owns its own box factory, where packing cases are made, those intended for long travel being wire-bound and otherwise very durable.

The mill has been successful from the very early beginning and the recent doubling of its capacity is to take care of the growing pulp and paper industry of the Pacific Coast.

The limitations of the markets for the finished product are confined to the Pacific Coast, and the present increased capacity being beyond the demands of the present market, efforts will have to be made to cater for export markets until the demand on the Pacific Coast sufficiently increases to take care of the additional production.

Wenatchee Forest to Build Roads

During 1927 the forest service will spend more than \$26,000 on trail and road construction and maintenance work in Wenatchee National Forest, it is announced by A. H. Sylvester, supervisor of the forest.

C. F. Beyerl Makes Eastern Trip

C. F. Beyerl, manager of the Oregon Pulp and Paper Company of Salem, Oregon, left about March 12 for New York City. He returned to Salem about April 1.

Analyzing the Coast Development

THE large pulp wood resources of the Pacific Coast and the increasing shortage of domestic pulp wood and pulp point toward a logical pulp development in the West on a large scale. The Seattle Chamber of Commerce is now undertaking a survey of the pulp and paper industry in the state of Washington and a number of graphs are being prepared by R. R. Montell, consulting engineer. One of these graphs, well worthy of study, covering the pulp and paper situation in the United States as a whole is presented herewith. The Chamber of Commerce survey still faces a large amount of work, and no data will be available for distribution by that organization until approximately June 1. Mr. Montell gives an explanation of the graph accompanying this article, applying it specifically to the state of Washington. It must be understood that the explanation can, in general, be applied to all the vast pulp wood area of the Pacific Coast. Mr. Montell's explanation follows:

This graph visualizes the whole pulp and paper industry and brings out all the facts which have a bearing on the future of the industry in Washington.

The heavy imports are apparent at once, pulpwood, sulphite pulp and news lead in amounts imported and sulphate pulp leads in percentage of imports to total consumption.

The raw material is of particular interest to Western Washington, as the spruce-silver fir-hemlock group

forms about 78 per cent of the total consumption of pulpwood. The survey will show that the shortage in this group has increased from 40 per cent in 1914 to over 60 per cent in 1925. This shortage is defined as the domestic pulpwood required to produce all the pulp and paper now imported, in addition to the pulpwood imported.

The graph shows the comparatively insignificant consumption of the other woods and proves that the primary problem before the pulp and paper industry today is discovering and utilizing additional supplies of spruce, silver fir, and hemlock; in other words, developing the existing resources of Western Washington.

The heavy lines connecting the raw material with the pulps show the processes to which the woods lend themselves for primary uses. The dotted lines show secondary uses or possible processes. Douglas fir, cottonwood and alder have been shown in relation to possible pulping processes and it will be noted that Douglas fir can be pulped by the sulphate and soda processes. The so far neglected alder is included because the survey will bring out the fact that it is destined to form an important future source of pulp in Western Washington.

The graph shows that sulphite and mechanical pulp form 54 per cent of the total consumption, explaining the heavy drain on the spruce-silver fir-hemlock group and emphasizing the local opportunities.

Waste paper pulp is shown to form a surprisingly large part of the consumption. While the consumption of the other pulps and of all paper is taken from the advance figures of the 1925 census of manufacturers, the consumption of waste paper pulp, not covered by the census, is assumed to be proportional to the total pulp consumption in the same ratio as during previous years.

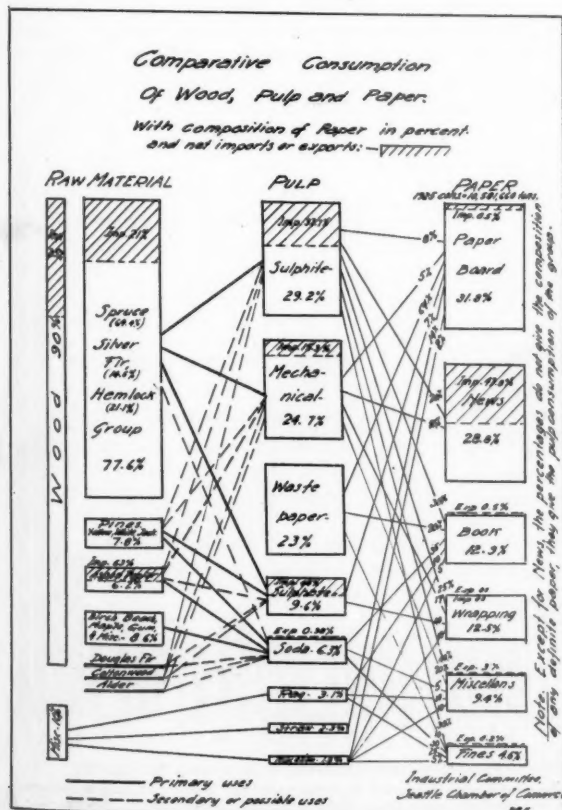
The heavy imports of sulphate pulp are of particular interest to Washington. While the raw material is ample, especially in the South, the American manufacturers have been caught napping. The consumption of sulphate pulp increased 472 per cent from 1914 to 1925, while sulphite pulp increased only 46 per cent and soda pulp increased 39 per cent.

The consumption of sulphate pulp is destined to continue this rapid increase for some time, which is fortunate, as it will release the sulphite pulp for use in the more valuable papers and partially relieve the shortage in the spruce-silver fir-hemlock group.

The survey will map out a program for sulphate pulp development in Washington as a stabilizer of the Douglas fir production, leaving the future major sulphate pulp developments to the practically unlimited pine resources of the South.

The graph shows that soda pulp is the only pulp able to export a surplus, while the consumption is relatively small and increasing at a slower rate than other pulps. The fact should be borne in mind when planning manufactures of this pulp in Washington on any large scale.

(Continued on page 34)



Research Finds More Paper Buyers

By MELVIN W. CASSMORE, Research Engineer

THE man who can see two years ahead today and know exactly what to do is a wise man indeed.

Great changes have taken place in industry in the past few months and other changes, displacements and shifts quite as radical are in prospect.

The paper industry is much affected by these changes and, because of the peculiar position it occupies in the economic field, will continue to be so affected.

The reason is that paper takes the position of a helper of other materials and substances. It carries the message that ink imprints upon it, and it covers and contains a multitude of more pretentious substances. Its function is unique among materials; paper is content to be insignificant, to be used and destroyed, yet, through this subservience it makes information and intelligence available to all and increases the convenience and utility of other substances. Should there be a change in the economic importance of any of these materials which paper serves, it would be immediately affected.

Paper, An Economic Paradox

No material is probably so dependent or has so little utility by itself, yet paradoxically, it is because

of this very fact the most important material we know, the most indispensable.

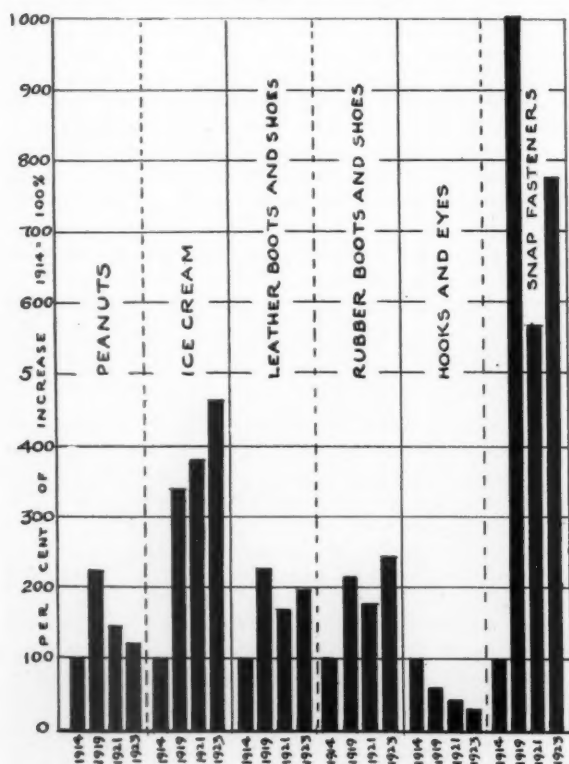
Some things can be used independently and are useful by themselves. Milk, fruits, eggs, coal, most natural products and some artificial ones like tissue papers, paper napkins and towels are of this class.

But the great bulk of paper manufactured is used with something else. It is printed on, it covers or contains something. The value of paper depends upon how it coordinates with these other things; also, the demand for paper depends largely upon the success of other industries. The newsprint industry depends upon the popularity of the press; and a varied line of paper manufacture depends upon the popularity of packaged goods.

We have here the Economic Paradox, for the very thing that looks like an apparent weakness is a real source of strength. If paper is by its nature dependent upon all else, so is nearly every human function and enterprise related to the use of paper. The utility of paper, therefore, typifies the counsel of the Master: "And whosoever will be chief among you, let him be your servant."

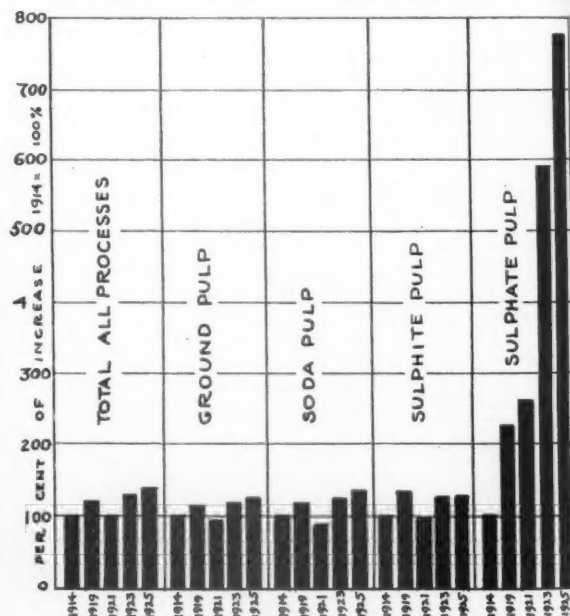
An Example of Industrial Change

The paper industry affords a fine example of just what is going on in all progressive industry. Chart A, shown herewith, illustrates the sensational growth of the sulphate process from 1914 to 1925. It will be ob-



SOME SHIFTING PAPER MARKETS

The percentage of increase or decrease in volume of business in dollars in the above industries from 1914 to 1925. 1914=100%. Source—U. S. Census of Manufactures.



CHEMICALIZATION OF THE PAPER INDUSTRY

The percentage of increase in tonnage of each process of pulp manufacture in the United States from 1914 to 1925. 1914=100%. Source—U. S. Census of Manufactures.

served that by 1925 the sulphate process had increased its volume of output more than seven times since 1914, while the total output of wood pulp, including sulphate, had increased 37 percent. The only process besides sulphate which had increased faster than the average was bleached sulphite which at the end of 1923 had increased 44 percent over the 1914 output.

The Chemicalization of the Paper Industry

The use of chemicals and related products in the paper industry has increased much faster than the output of paper. In the two years from 1924 to 1926 the use of caustic soda doubled, and the consumption of soda ash increased 33 percent, the consumption of bleaching powders decreased 43 percent, while their more efficient substitute, liquid chlorine, increased its use 90 percent. As one ton of liquid chlorine replaces nearly three tons of bleaching powders, the percentages understate the true replacement.

Paper manufacturing has been steadily increasing its use of casein until about 80 percent of the total supply of casein, both domestic and imported, is used by the industry.

The time was when paper making was largely a mechanical process, consisting almost entirely of a grinding or macerating process, followed by the reuniting of fibre by heat, pressure or natural affinity. Steel making at one time was a process of heating, squeezing or hammering—and is yet in some of its branches. Today chemically pure steel is made electrolytically. Duco, rayon and paper are made from the same material and are but differing forms of chemicalization. The only reason why new forms of paper with new utilities have not appeared more significantly is simply because the program of intensive research which produced pyroxlin paints, rayon, the vacuum tube, ethyl gasoline and other revolutionary things have not been adopted by the paper industry.

What Kind of Research

There is something in research for the paper industry which is near and practical. That is market research. What kind of paper shall we make and who will buy it?

The same thing which has been going on in the chemicalization of paper has been going on in other industries; in some industries to a much greater degree.

Customers are dropping out and new ones are appearing. The industry which purveyed a sack of peanuts is declining and the ice cream business is growing by leaps and bounds. The paper peanut sack is going out and wrappings and containers for ice cream are very much on the ascendency. This same thing is being repeated in a hundred ways in different paper markets.

What are the forces which are changing the paper market and what is likely to be their effect?

In establishing an enterprise, it is good sense to look well at the last difficulty first, which is the sale of the goods produced. If that can be profitably done, then we may wisely proceed to the solution of the lesser difficulties.

The Pacific Northwest is the inevitable home of the paper industry. The pulpwood is here in a supply that can be made perpetual; operating materials are readily available, for no region is so diversified geologically; and the streams await development for power utilization.

With these facilities there is a particularly hopeful future here for the manufacturer who will seek one or more of the expanding markets in other industries.

In the United States, the production of paper boards is first both in value and tonnage. Canada's production is almost entirely newsprint, most of which is exported to the United States. Of the 18 additional newsprint machines installed in 1926, 17 were in Canada. In the United States the tonnage of newsprint in 1925 over 1924 was only 3.6 percent, while the increase in boxboard and wrapping paper tonnage was about 6 percent. In 1926 Canada for the first time made more newsprint than the United States. Unless governmental restrictions change the situation, the natural tendency of the United States to make utility papers while Canada manufactures the newsprint is likely to continue. There are, of course, interests which would like to see a change, but this tendency appears to be well rooted.

Fields for Utility Papers

There are unexplored markets for paper. Take, for instance, the educational system from the grade school to the university. Many years ago we abolished the slate with sponge attached, substituted paper and stopped there. The labor consuming and dusty blackboard still remains. Educational research for uses of paper should be a fertile field.

Take the field of food marketing in which there are so many awkward practices. Washington is the leading apple state and puts out her apples in a box no one can carry home. There are other objections to the wooden box and the time seems ripe to put out a paper apple box designed to comply with merchandising principles.

Potatoes have improved in quality and increased in price significantly the past ten years. A more consistent container than a jute sack might be found for the 400,000,000 bushels that are marketed annually. There are \$18,000,000 worth of cantaloupes sold each year. This delicacy is now standardized in quality sufficiently so that it might stand dressing up with a protective container.

Significant changes have already been made in food merchandising through the use of specialty papers. The fishing industry has made intelligent use of parchment and so opened markets not previously reached by fish dealers. Parchment is also used in shipping lettuce (a few years ago a rarity), asparagus and other delicate vegetables.

The growth of the dried fruit industry, which is almost entirely upon the Pacific Coast, has been made possible by the paper carton.

The paper cement sack is a new development in containers. It is too recent for a seasoned opinion, but cement producers are inclined to encourage its use and to study its adaptation to improved methods of merchandising.

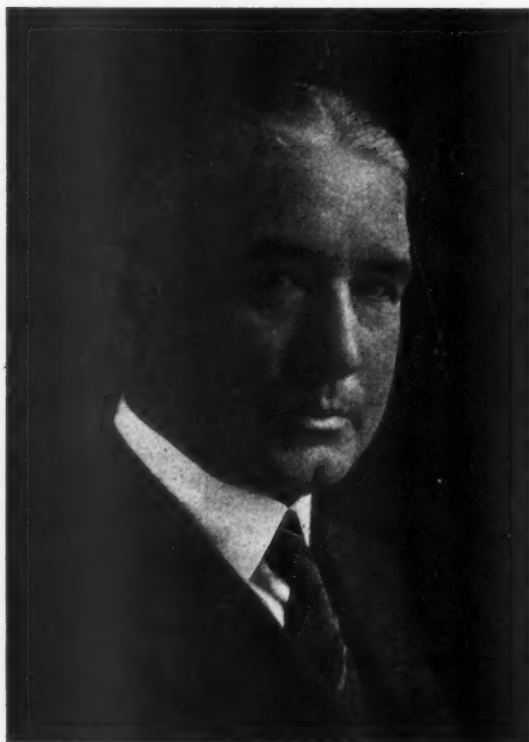
Victoria Paper Box Company Expands

The Victoria Paper Box Company, Ltd., of Victoria, B. C., a recently reorganized firm, is considering plans for a new building and other extensions to increase production. New machinery has already been purchased, it is reported. The firm formerly operated under the title of Messrs. Davis and Schmeelk, Ltd. The factory is situated on Wharf street at the foot of View street. Installation of the new machinery will crowd the present building and a new location may be sought.

Bloedel-Donovan Lumber Mills Propose \$5,000,000 Plant

Huge Timber Interests at Bellingham, Washington, Plan 110-Ton Pulp and Paper Unit on Site Near Saw Mill For Utilization of Lumber and Logging Waste

MARKING the entrance of one of the Pacific Coast's largest lumber mill operators into the pulp and paper field, President J. H. Bloedel of the Bloedel-Donovan Lumber Mills at Bellingham, Washington, announced on April 7 plans of the company to erect a 110-ton paper and pulp mill at Bellingham at an ultimate cost of \$5,000,000.



J. H. BLOEDEL

A mill using the soda process, to be housed in a building 700 feet long on a site south of the company's huge cargo lumber mill, and to utilize the waste from the mill and logging operations is planned.

In a statement to Pacific Pulp & Paper Industry Mr. Bloedel said, "The positive announcement that we will build the mill depends on certain preliminary steps that must be taken. The proposed site is on our own property south of the lumber mill, and as this site projects into the harbor area it will first be necessary to obtain the approval of the state land commissioner.

"We must also be assured of an adequate water supply. The mill we have planned will need 3,000,000 gallons daily."

There is some doubt as to the extent of the authority of the state land commissioner to make the necessary approval for the proposed mill site. Mr. Bloedel stated that possible litigation may arise over the question and delay actual construction.

Mr. J. J. Donovan, vice president of the Bloedel-Donovan Lumber Mills, has taken up the question of water supply with the city of Bellingham. He has asked a 50 percent reduction in the minimum water rate to large users of water for industrial purposes.

The question of water for the paper and pulp mill has mutuality with a request for additional water pressure to protect the cargo mill. Mr. Donovan stated that surveys made by the insurance companies have shown the water pressure to be insufficient for proper protection. The cargo mill is on the same main that supplies the San Juan Pulp Manufacturing Company.

While the city officials have taken no action it has been stated that their attitude is favorable and that the obstacle with respect to water supply for the new mill is largely a financial one.

Transportation facilities at the proposed site are the best. Docks for deep sea traffic can easily be built and a railroad spur will afford rail connections.

With respect to the utilization of waste Mr. Bloedel said, "The company has had experts studying its problem of waste for several years. The mill we plan is based on the results of that investigation. Providing the way is cleared for it, the mill will use slabs from the saw mill now going to the burners or being sold as wood."

Waste in connection with logging operations would also be utilized, Mr. Bloedel stated.

The Bloedel-Donovan Lumber Mills employ 2500 men and have a monthly payroll of \$300,000. The proposed pulp and paper unit would mean the employment of another 600 men, divided about equally between mill and woods.

The company has immense timber holdings, mainly on the Olympic peninsula, with a stand of timber said to approximate 2,000,000,000 feet. Fir, spruce and hemlock comprise the bulk of the stand. The timber is practically untouched as the company has been operating in the Olympics only a few years.

A. H. Cox & Company Adds Complete Line of Pulp and Paper Machinery

Preparing to serve the pulp and paper industry of the Pacific Coast, the A. H. Cox and Company, with offices at 1757 First Avenue South, Seattle, announces that it has made arrangements with manufacturers of pulp and paper equipment to handle their lines. The move is announced by the company as a desire to bring a complete equipment service to the door of the rapidly growing industry in the West.

Willamette Steel Works Develops With West

One of the first industries located in Portland, Oregon, and one of the first important ventures in metal working in the Northwest, was the Willamette Iron and Steel Works. It was organized September 14, 1865, then being known as the Willamette Iron Works, and since that time has developed apace with the West.

The company manufactures all kinds of machinery and equipment, and for the paper industry supplies digesters, air tanks, pipe lines, boilers, diffusers, mixing tanks and bearings. Many types of logging equipment are also made in this plant.

In 1921, the new building was completed, marking another step in the progress of the company. Here is housed one of the largest boiler plants in the West. Other departments include one for highly specialized plate work, a heavy machine shop, and light machine shop, a large erecting bay, and warehouse, offices and shipping facilities.

The Willamette Iron and Steel Works is said to have been the first manufacturer of digesters on the Pacific Coast. The first digester was built in 1909 for the Crown-Columbia Pulp and Paper Company. Since then many of the foremost plants on the coast have provided themselves with this equipment.

One of the specialties of this company is their heavy duty bearing, which is of special and distinctive design. Its construction is such that no oil leaks out of the bearings, but as it seeps to the ends, is filtered thru wool waste back into the oil reservoir. In this manner, it is necessary to oil the bearing very infrequently. The greatest oiling surface is presented to the bottom of the shaft, where the pressure is the greatest.

These bearings are used on reduction gears, high speed pumps, calendar stacks, drying rolls, etc. Many pulp and paper mills are making large use of them and find them well suited to the requirements of the industry.

Dangers, Too, In Development, Simons Declares

Although the Pacific Coast offers many attractive advantages for the development of pulp and paper manufacture, there are some grave dangers attached to the development in the opinion of Mr. V. D. Simons of Chicago, engineer in charge of construction for several of the Zellerbach plants. Mr. Simons was in Seattle recently and left for Portland on March 23, intending then to proceed to San Francisco and Chicago.

One serious danger, Mr. Simons declares, is the possibility of building up a great number of small mills which will depend entirely on mill waste.

"Fluctuations in the price of pulp and variation in the supply of raw material would make the industry vulnerable," Mr. Simons said.

Alaska Power Development Planned

C. S. Hubbell of Hubbell and Waller, Seattle civil and hydro-electrical engineers, returned to Seattle April 1 after a trip to New York, Washington and Chicago, where he conferred with pulp and paper mill engineers regarding the development of water power in Alaska in connection with the pulp and paper industry. His firm has spent sixteen years in surveying and developing Alaskan water power sites. H. H. Waller left for San Francisco the week of April 4, on similar business.

Newsprint Production Falls Off

Production in Canada during February, 1927, amounted to 150,773 tons and shipments to 145,263 tons, according to the News Print Service Bureau's February statistics issued from New York. Production in the United States was 121,318 tons and shipments 119,076 tons, making a total United States and Canadian news print production of 272,091 tons and shipments of 264,339 tons. During February 14,297 tons of news print was made in Newfoundland and 1,077 tons in Mexico, so that the total North American production for the month amounted to 287,465 tons.

The Canadian mills produced 37,146 tons more in the first two months of 1927 than in 1926, which was an increase of 13 per cent. The United States output was 12,618 tons or 5 per cent less than for the first two months of 1926, that in Newfoundland 5,258 tons or 20 per cent more, and in Mexico 273 tons or 14 per cent more, making a total North American increase of 30,059 tons or 5 per cent.

During February the Canadian mills operated at 86.3 per cent of rated capacity and the United States mills at 88.7 per cent. Stocks of news print paper at Canadian mills totalled 22,769 tons at the end of February and at United States mills 18,426 tons, making a combined total of 41,195 tons, which was equivalent to 3.2 days' average production.

Pacific Coast Paper Mills Officers Reelected

All officers and directors of the Pacific Coast Paper Mills at Bellingham, Washington, were reelected at the annual meeting held at Bellingham on March 23. The officers are: J. J. Herb, president; R. F. Arnett, vice-president; Elmer Herb, Secretary; H. M. Lord, treasurer.

The board of directors includes: R. F. Arnett and H. M. Lord, New Westminster, B. C.; J. J. Herb, G. V. Nolte and G. H. Bacon of Bellingham.

B. C. Pulp & Paper Shows Profit

First annual report of the British Columbia Pulp & Paper Company which has plants at Port Alice, Woodfibre, and Swanson Bay, shows a net profit for the year of \$81,060. Before deducting for bonded debt, depreciation and income tax the profit amounted to \$807,232. Excess of current assets over current liabilities is given as \$1,310,285. The assets of the company are \$9,262,637.

Option Taken on Aberdeen Site

An option on a large tract of land just outside the city limits of Aberdeen, Washington, has been obtained and offices of a pulp and paper company were to be opened in the Becker building, according to word from Aberdeen on April 1. City officials declined to divulge the principals involved, but stated that the company interested was neither the Crown-Willamette nor the Zellerbach.

A. B. Galloway Fully Recovered

A. B. Galloway, Pacific Coast sales manager of the Oregon Pulp and Paper Company of Salem, Oregon, who was taken ill in Seattle shortly before March 1, has now fully recovered, and is on the job as before.

Competition—

See page 45

T-R-A-D-E - T-A-L-K

Devoted to the Paper Trade of the Western States

Del Monte Ready for Pacific States Paper Trade Association Meet in May

Plans for the tenth annual meeting of the Pacific States Paper Trade Association at the Hotel Del Monte, Del Monte, California, May 12-14, are being shaped up rapidly, under the direction of W. B. Maxwell, chairman of the program committee, and the most interesting and enjoyable gathering in the association's history is being looked forward to.

Speakers will include W. Noble Gillett, vice president of the National Paper Trades Association; N. A. Schoenbucher, secretary of the wrapping paper division of the national organization, and several coast men. A number of eastern manufacturers are expected to attend.

Assisting Mr. Maxwell are J. R. Coffman and T. M. Denison of Los Angeles, L. A. Colton and W. B. Reynolds of San Francisco, W. S. Gilbert of Spokane and O. W. Mielke of Portland. Augustus Johnson of San Francisco is chairman of the golf committee and the other members are M. M. Baruh and H. A. Goedge of San Francisco and J. R. Millar of Oakland. Mrs. Goedge heads the ladies entertainment committee.

The business sessions open the afternoon of Thursday, May 12, and alternating with golf, continue until the election of officers on May 16. On the night of May 14 there will be a joint meeting of manufacturers and jobbers to discuss trade matters of mutual interest and benefit.

Golf tournaments of the paper trade organization and of the coast manufacturers will take place the same week. The manufacturers have invited the members of the Pacific States Paper Trade Association to participate in their tournament, the qualifying round of which will be played May 10 and ending May 14. The ladies have a tournament of their own.

Social events of the convention include the annual dinner dance the night of May 13 and the golf banquet on the evening of May 14.

Officials of the association are: M. R. Higgins, president; E. W. Buckley, T. M. Denison, B. G. Ewing, W. L. Guthrie, and W. B. Reynolds, vice presidents; Charles Kahn, secretary treasurer.

Blake Moffitt & Towne Hold Banquet

An event always looked forward to with eager satisfaction by the employees of Blake Moffitt & Towne, wholesale paper dealers of Los Angeles, is the annual banquet of this concern. This year's gala affair, which was the fifth, was held in the ballroom of the Hotel Alexandria, on February 19th, and was characterized by more than the usual amount of good fellowship and evidences of "family spirit" which is noticeable among the employees of this house.

Including a few invited guests 207 persons sat down to the sumptuous repast which the Alexandria chef had taken especial pains to prepare. During the progress of the dinner an excellent musical program was

furnished. Mr. F. M. Couch, manager, made a short address of welcome and also acted as toastmaster for the evening, according to annual custom. At the conclusion of the banquet dancing to the music of a splendid orchestra brought a very happy evening to a close.

Traung Company Shows Profit

Annual sales amounting to \$1,246,884.54, an increase of 9.28 per cent over the previous year, are shown on a recent financial statement of the Traung Label and Lithograph Company, San Francisco. Net profits, after all charges, including federal income taxes had been deducted, were \$91,393.84. This amount is equal to \$3.05 a share of class A outstanding, or 2.03 times the preferential dividend requirement of \$1.50 a share on class A stock.

Since the figures for the year were compiled the company has contracted for new machinery to the extent of \$129,000. The statement shows assets at the end of 1926 totaling \$1,727,231.

Western Pacific Paper Company Moves

On April 1st the offices and warehouse of the Western Pacific Paper Company of Los Angeles, were removed from the location at 1540 Industrial Street, which had been their quarters for four years, to 1231 South San Pedro Street. The new address is the former location of the National Paper Products Company which recently removed to its fine new plant at South Gate.

The Western Pacific Paper Company will have 66,000 square feet of floor space in the new location which is situated in the heart of the printing district and should be an ideal site for this enterprising and rapidly-growing concern.

E. W. Buckley, manager of the local office, announces that there will be a considerable increase in the working force and that the following executive appointments have been made: L. D. West, assistant manager; R. L. Kelly, sales promotion manager, and Charles W. Lynch, formerly vice-president of the LaSalle Paper Company of Chicago, will have charge of the announcement department which is rapidly becoming one of the most important departments of the concern.

Portland Buyers' Week Committee Named

W. D. McWaters, manager of the Portland branch of Zellerbach Paper Company, has been named second vice chairman of Buyers' Week executive committee of the Portland Chamber of Commerce, which will have charge of the various features of the 1927 annual Buyers' Week, scheduled for August 8 to 13. C. L. Shorno of Blake, Moffitt & Towne, has also been selected to serve on the committee. Tentative plans call for many new and novel entertainment features for the host of visiting merchants from all sections of Portland trade territory. More jobbers and manufacturers are ex-

pected to participate in the activities of the week than in any former year, especially in view of the fact that many Eastern manufacturing firms have established branches in the Rose City.

R. E. Davidson Making Extended Southern Tour

Roy E. Davidson, president of the Standard Paper Company at Tacoma, Washington, left March 28 for an extended tour of Central and South America and Cuba. He will return by way of New York and Boston, and will probably stop at his old home territory, Chicago and Milwaukee. On this trip he will visit many of the mills with which he has been dealing and will visit friends and relatives. Mr. Davidson will be away from his business for between two and three months, during which time F. A. Wilhelmi, secretary of the firm, will be in charge. Mr. Davidson has been in the paper business since 1889. His firm, the Standard Paper Company, was formerly the H. N. Richmond Company.

Now They're Known As Commercial Paper Corporation

Choosing a name more appropriate to the commodity they handle the Commercial Trading Company of San Francisco has changed its name to the Commercial Paper Corporation. The company has also moved its offices and warehouse to 248 Davis Street, just one half block from the former location. The new location gives them more than double the former floor space and permits the carrying of larger stock and greater variety. The Commercial Trading Company was incorporated in 1919 and has since been actively engaged in the fine paper business.

New Zellerbach Branch at Eugene, Oregon

A second wholesale branch in Oregon has been announced by the Zellerbach Paper Company of San Francisco, to be located at Eugene. A site has been obtained and construction of a building is to begin about May 1, according to W. D. McWaters Sr., manager of the Zellerbach branch in Portland.

Pacific Coast Gets \$150,000,000 Paper Contract

Said to be the largest paper purchase contract ever made, an agreement has been completed between the Crown Willamette Paper Company and William Randolph Hearst, publisher, for a ten years' supply of paper for the Hearst papers on the Pacific Coast. A. B. Martin, vice-president of the Crown Willamette Company, has stated that the amount of the contract exceeds \$150,000,000.

Seattle Paper Market Firm

C. O. Dickie of the Paper Mills Agency, Seattle, reports that the wholesale paper business in this territory is holding firm, and in spite of money being a trifle tight for the past month, conditions are very satisfactory.

Thos. H. Doane Returns From Trip

Thomas H. Doane, manager of the Pacific Coast Paper Company, at San Francisco, is back from a trip to Chicago and a number of cities in the south, including Jacksonville, Miami and other Florida points. Mr. Doane is optimistic regarding business prospects for the paper trade.

Ayres Organizing Educational Department

Rollin C. Ayres, advertising director of the Zellerbach Paper Company, at San Francisco, one of the best known figures in the advertising field on the Pacific Coast, has been assigned to the organization of an educational department for the company. D. C. McMillin, who has been the assistant advertising manager, succeeds Mr. Ayres as head of the advertising department.

Eastern Manufacturers Touring West

E. Meurer, president and general manager of the Central Paper Company of Muskegon, Michigan, and Paul W. Lange of Chicago, have been touring the Pacific Coast during the past two months, investigating possible mill sites. They have visited Portland, Olympia, Seattle and Port Angeles, and other localities which hold forth possibilities in the industry. Mr. Meurer is accompanied on the trip by his wife.

Blake, Moffitt & Towne Open Fresno Branch

Blake, Moffitt & Towne opened their new building at Fresno, California, on March 12. An invitation was extended to the trade to attend on Open House Day and visit and inspect the new branch. The new building is a thoroughly modern and up-to-date paper house which has been erected for the convenience and better service to the San Joaquin valley. The Fresno branch is located at 333 Van Ness Avenue.

Continental Paper & Bag Reports Loss

Net loss of \$1,358,300 for 1926 is reported by the Continental Paper and Bag Company, including subsidiaries, against a net loss of \$1,356,245 the year before.

Tacoma Paper Company Reports Business Steady

Frank E. Jeffries, president of the Tacoma Paper and Stationery Company, of Tacoma, Washington, reports that the retail and wholesale paper business in this city has been very fair since the first of the year.

Spaulding Company Elects Officers

All officers and directors of the Spaulding Pulp & Paper Company at Newberg, Oregon, were reelected at the first annual meeting held on March 2. Finances were reported in good condition and operation will begin in late summer, it is expected.

The directors are: Charles K. Spaulding, Salem; J. C. Compton, McMinnville; R. J. Moore, G. W. James, L. B. Ferguson, and H. C. Spaulding, Newberg; W. R. Bowles, Portland; H. M. Hawkins, Salem, and Leland S. Johnson, Eugene. The officers are Charles K. Spaulding, president; J. C. Compton, vice-president; Clarence Butt, secretary; and L. B. Ferguson, treasurer.

Bellingham Paper Mill Adds Third Shift

The Pacific Coast Paper Mills Company at Bellingham is now running on a twenty-four hour basis. The change from two eight-hour shifts to three shifts was made on March 7.

Jenssen Company Representative Here

A. H. Lundberg, a representative of the G. D. Jenssen Company of New York, manufacturers of Jenssen Acid towers, arrived in Seattle March 14 and will remain in Seattle and vicinity for about one month.

Pulp Timber Regrowth on the Pacific Slope—Hemlock

By C. R. BERRY, Forestry Engineer

IN last month's Pacific Pulp & Paper Industry a general review of the two principal species of pulp timber was given. In this installment Western Hemlock will be treated upon and, in a later and subsequent article, the Silver fir, or Balsam.

Western hemlock (*Tsuga heterophylla*) differs very materially from the hemlock of the eastern states. It is a superior wood on almost every count. It is of a greater average size, of a far better texture when considered as a pulp timber, does not have the same tendency toward sap stain and is generally more sound than Eastern hemlock (*Tsuga canadensis*).

Western hemlock occurs over a wide expanse of territory throughout the entire Northwest. In quantity it is next to Douglas fir and it is very likely that this region is its natural habitat.

It is distinctly an unwise assumption to conclude that Western hemlock is "fit only for pulp". The Western Hemlock Association regards it in quite a different light, hence it seems like good business to the writer to respect the claims of producers of hemlock lumber products, particularly in discussing the future of this species instead of the present stand, for there is no doubt that, eventually, select grades of Western hemlock will be a most popular substitute flooring for maple and fir and pine, and the height of its popularity undoubtedly will be when the new growth becomes of merchantable size. It is well, let us then conclude, to take into account the utilization of Western hemlock selects in planning a second crop.

The Western hemlock species occurs in fairly clean, well-defined stands. Generally speaking, it stands at an altitude of the hill, and mountain slope where fir, cedar and some of the other native species leave off. This tree seems to thrive on lush soil and moisture laden atmosphere equally as well as its companion species, but further than that it takes up the "battle of life" where the others fail to survive. In a consideration therefore, of hemlock re-growth there is one cardinal principle underlying all else that bespeaks for it the position of prime importance to the pulp and paper industry. That principle is, that reforestation of Western hemlock may be confined wholly to such areas as those entirely unsuited for agricultural purposes.

Such areas upon which Western hemlock abounds are most numerous in Western Washington and Oregon and the coastal region of British Columbia and Alaska and Icy Straits. It grows abundantly where the topography of the terrain is rolling to precipitous. Sometimes, very large stands of Western hemlock occur in areas that render it prohibitive to log for lumber purposes by the customary methods and for that reason such stumpage in these respective districts is likewise low in cost. These, often, should first re-

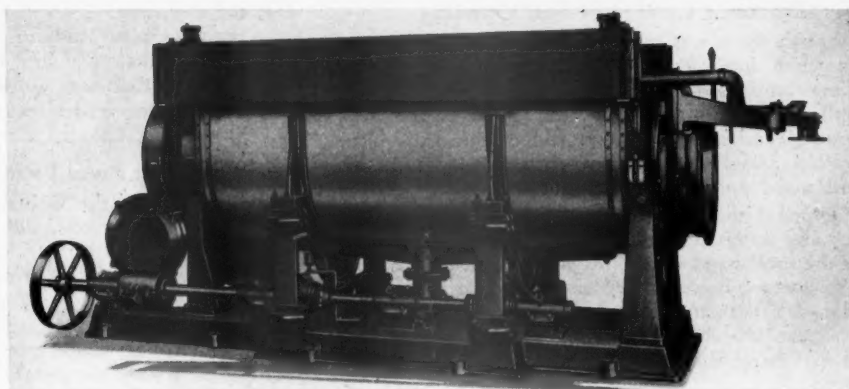
ceive attention from prospective pulp manufacturers for three reasons, namely, (a) the lumber manufacturer is not generally interested in such, (b) the period of re-growth may be said to have thereupon commenced and (c) the pulp industry can bear a somewhat higher logging expense than can the lumber industry, since the manufactured product of the latter obtain only about half the price for the same volume as for ground wood pulp,—not exactly a fair comparison, however, in view of the fact that the reduction of the log to pulp is of a greater cost than the operation of manufacturing lumber.

Always with that one great slogan in mind—adequate fire protection—Western hemlock re-growth should be considered in every instance wherever the title to an area is taken over and harvesting started. Expend but half the energy and expense in making sure that the area under consideration is amply protected from fire that is necessary to spend in re-seeding or re-planting and the result will be a worth-while, merchantable crop of a much better grade of timber than by the never-too-late-to-mend methods so often pursued. The careful conservation of Western hemlock pulp timber is an important phase of development in the Northwest pulp and paper industry and the opportune time to inaugurate such a program is right now. Fire attrition is avoidable. The per acre cost may be kept low if sound judgment is employed from the beginning, and a fund should be provided, similar to an insurance rating and covering the expected period of re-growth. This is not only a feasible arrangement, it is a most sensible one and should be considered just as readily as a concern places insurance upon its buildings.

As has been stated, hemlock has a more rapid ratio of growth in the earlier half of its growing period. This same rule applies also to other species, with the notable exception that while other rapidly growing timber by reason of its tenderness, is prone to the attacks of various diseases and wood destroying pests, the sapling hemlock seems to be practically immune from them. It will grow and thrive in thicker stands than other pulp timbers, without the high mortality of other sapling growths.

There is a possibility of utilizing the sapling growth as it now occurs among the mature timber, as an "intermediary" supply within a period of from five to ten years. To conserve this, however, harvesting methods must be greatly modified, for the present manner of logging saw timber is most destructive of this growth. Volume is the great motivating factor now among logging companies; volume means disregard for the future supply, but lack of volume means a deficit. Pulp

(Continued on page 32)



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1. A worm drive for compactness and safety.
2. A new type of shake for simplicity and better screening action.
3. An all copper vat for permanence.
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The fact that more than 20,000 tons of paper pass through Bird Screens daily is sufficient evidence of the fact.

But we haven't been willing to "let well enough alone." Bird engineers have profited by ten years study of Bird Screen installations now numbering upwards of a thousand. And the result of this study is the **Better Bird Screen**.

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South Walpole, Massachusetts

Twenty odd thousand tons of paper pass through Bird Screens daily

Edmonds Celebrates Mill Opening

Although there was much skepticism and shaking of heads when interested parties began looking at the war-time unused building down on the water front with the view of installing a pulp mill, the town of Edmonds, Washington, is now solidly behind the Occident Pulp and Paper Mill which began to turn out ground wood pulp on March 25.

On April 1 the entire town locked its doors at one o'clock and watched a parade of school children, headed by the local band and a fire department truck. Then the grownups followed the parade down to the mill to be welcomed personally by President Joseph E. Molyneux of the Occident Mill, and to tour the mill and see at first hand that the mill was producing.



JOSEPH H. MOLYNEUX

Representatives of the Seattle Chamber of Commerce were also present and furnished a speaker for the civic banquet which was held in Edmonds the same evening.

A description of the Occident mill appeared in the March number of **PACIFIC PULP AND PAPER INDUSTRY**.

Rufus H. Bishop, in charge of operations, was an exceptionally busy man during the first weeks of the mill's operation. The company is building up a crew of local men, many of whom were entirely unfamiliar with paper and pulp work, but with a very few men in key positions the operations went on. Building up a local labor supply is preferred by the Occident Company to the importing of outside help, even though the initial training periods entail some little grief. But the desire is to get the community interested in the project and to have a labor supply right at hand when wanted.

Mr. Bishop is a practical paper man, being formerly identified with the Kimberly-Clark mills at Neenah, Wisconsin.

Stuart M. French is secretary of the Occident company and is also engineer in charge of construction. He has been identified with paper and pulp mill construction in Oregon and Idaho for some time.

Robert S. Wilson is treasurer of the company and Roy J. Hutson is a trustee.

The mill is producing 40 tons of ground wood pulp daily at present, but expects to increase that figure when operating improvements are installed. In addition,

the foundations for an additional grinding unit are already in place, making possible a 50 per cent increase in production at any time in the future.

All of the Occident company's product was contracted for before a wheel was turned.

Columbia River Paper Mills to Expand

The capacity of the Columbia River Paper Mills of Vancouver, Washington, will soon be increased about sixty per cent. A new 136-inch Fourdrinier has been ordered and work of preparing for installation is going forward.

Excavations are being made for the machine in the present plant. It will not be necessary to add to the building to house the machine, as allowance for the additional equipment was made when the plant was constructed. The foundation steel is on the way now and will be ready to receive the machine when it arrives. The foundation plates are expected to be in place by April 15.

Another crane has been installed, and it will probably be necessary to add another digester and boiler. Two months ago a new digester was placed in the plant by the Willamette Iron and Steel Works, but it is not anticipated that this will be sufficient for the increased capacity. Two new grinders are also being installed by the Sumner Iron Works.

It will be some time before the machine itself arrives in Vancouver, but it is hoped that it will be in place and in full operation by August 1.

Longview Mill Continues Active

The Pacific Straw Paper and Board Company of Longview, Washington, is keeping a steady pace of production, and indications are that further expansion will soon be necessary. The plant now employs fifty-two men, and is operating twenty-four hours a day.

Straw is not being used at present, but it is believed that it will form a large part of the raw material soon. The straw will be brought in from Eastern Washington and from the Willamette Valley of Oregon. At the present time, waste paper is being used as raw material.

Reports that an expansion is to take place soon have been neither affirmed nor denied by Charles Schaub, president of the company. Such reports are based on the activity of the plant rather than upon any statement from the executives.

Lacey Company Reopens New Orleans Office

James D. Lacey & Company have opened an eighth office at Suite 1504 Pere Marquette Building, New Orleans, and contemplate the opening of a ninth office at Portland, Oregon. The company had an office in New Orleans from 1883 to 1918, but felt at that time that the Southern timber industry had declined to such an extent as to no longer warrant the office.

Increase in production of hardwoods, however, as well as activity in new crop timber on lands logged off a quarter century ago demands the attention of a woodsman and intensive field work is calling for the activities of forestry engineers.

W. D. Durland, a technical forest engineer, a man of many years forestry experience in this country and in Latin and South America, will have charge of the New Orleans office which will serve as a radiating center for the Southwestern timber area and Latin America.

Sole Selling Agents in U. S. A., Canada,
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Approximate Yearly Production 450,000 Tons

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WOOD PULP

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NEW YORK, N. Y.

Nelson, B. C., May Get \$4,000,000 Plant

A pulp plant to cost in the neighborhood of \$4,000,000 and hydro-electric development that would probably run into further millions may be constructed at Nelson, B. C., Canada, if plans are approved by capitalists in the Eastern United States. The power development would be on the Pend d'Oreille river. A report from Nelson states that the names of the principals are being withheld.

Big American manufacturers of high grade papers are behind the proposition, it is said, but the outcome depends on a report compiled by Howard S. Amon of Portland, Oregon. Mr. Amon could not be reached, as he went East with the report early in April and was not expected to return until the latter part of the month. Mr. Amon is accompanied by H. A. Radford, an operating expert sent out by the Eastern interests.

The Eastern firm has just acquired control of the Kootenay Pulp and Paper Company, and, should they found the new plant, will utilize the Kootenay company's charter as a starting point. In negotiations with the Nelson city council exemption is asked from taxation for a period of thirty years. Before such exemption could be granted the question would have to be submitted to the ratepayers in the form of a bylaw.

From the meager reports that have been given out it is understood that a bleached sulphite mill of 200-ton capacity will probably be erected.

The charter of the Kootenay Company covers the water power at Grohman falls, and a site in that vicinity. Plans of the new interests, it is understood, do not contemplate the use of either the falls or the site. The new plans anticipate, it is said, a site of approximately forty acres, comprising water front along the C. P. R. flat. The power would be obtained from a development of the Pend d'Oreille river, to be separately organized and financed, but a subsidiary of the main company.

Astoria Gets New Pulp and Paper Plant

New York and Pacific Coast people have joined hands in the acquiring of rights, lands, pulp wood properties and contracts and organized the Northwestern Pulp and Paper Company under Oregon laws, and will build a 120-ton sulphite pulp mill in Astoria, Oregon, with a number of by-products plants for use of the waste woods of the saw mills and logging camps, as well as the waste fibre and chemicals of the sulphite process itself.

The plant when completed will have a value of over four million dollars for the first unit, and is expected to begin production shortly after January 1st, 1928.

The officers of the company are from both the East and West Coasts. Charles R. Flint, 25 Broad Street, New York, is president and chairman of the board. A. V. Allen, Astoria, Oregon, a well known lumberman, is vice-president. B. T. McBain of Portland, Oregon, pulp and paper plant specialist, will plan and build the plant as engineer in charge, and will be vice-president and general manager. He has been connected with the Pacific Coast paper industry for over twenty years. Charles W. Fulton, of Astoria, Oregon, will be secretary and attorney for the company. He is well known in the Pacific Northwest. Mr. Samuel Connell will be treasurer.

Where the News Is—

See page 45

William Howarth In East

William Howarth, president of the Everett Pulp & Paper Company, at Everett, Washington, has gone east on a business trip and will be away for approximately one month. Mr. Howarth is a frequent visitor to the east, keeping in touch with markets. The Everett Pulp and Paper Company is a large producer of book and writing papers.

Evans and Howard Representatives in West

Mr. Ellis, sales manager of Evans and Howard, St. Louis manufacturers of fire brick, was in Portland, Oregon, the middle of March visiting those connected with the pulp and paper industry. He has covered the entire coast in his trip, and it is understood that representation in various parts of this territory has been arranged.

San Francisco Capital Seeks Water Power Development at Vancouver, B. C.

San Francisco interests, whose identity is not disclosed, are seeking water power in British Columbia for the development of a pulp and paper plant. The American interests are considering, among other propositions, an arrangement with the city of Vancouver whereby they would cooperate with the city in the development of the Cheakamus water power reserve now held by the city.

Mr. E. P. Bremner, representing the applicants, has issued the following statement: "Certain controlling interests in large hydro-electric power development in California, at my invitation, have come to British Columbia to associate in the establishment of a pulp industry."

"The Cheakamus power, now controlled by Vancouver, is one of the three hydro-electric possibilities considered."

Plan 250-Ton Mill for Kitimat Valley, B. C.

Construction of a 250-ton pulp and paper mill in Kitimat Valley, at the head of Douglas Channel, on the mainland about 90 miles south of Prince Rupert, B. C., Canada, will begin soon according to an announcement by C. F. Pretty, of Pretty's Timber Lands, Vancouver, B. C.

Several good water power sites, one of which will be developed, access to nearly five billion feet of timber on low-lying lands and harbor sites for deep-sea vessels, are advantages claimed for the location.

Mr. Pretty has been identified with pulp and paper interests in British Columbia for many years. In 1909 when the government proposed to cancel all pulp leases in the province, he took over the present Powell River power and timber from the Canadian Industries Company, Ltd., of London. Requested by the late Premier McBride to save the leases from cancellation, he interested the Brooks-Scanlon Company, with the result that the present Powell River mills were built.

American capital is interested in the Kitimat development, it is said, but names of the principals have not been disclosed.

Tacoma Engineer Goes to New York

A. B. Ayerst, pulp and paper engineer of Tacoma, Washington, left for the East March 1. The majority of his time was spent in New York on business, and he also visited acquaintances in this vicinity. He arrived in Tacoma again April 6.

Build Your Empire on the Last Frontier



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GRAYS HARBOR

for MORE PULP WOOD

Here is the largest stand of mechanical-sulphite pulp wood in the Pacific Northwest:

Old Growth 33,317,789,000 F.B.M.
New Growth 6,000,000,000 F.B.M.
Fir, Hemlock, Spruce, Cedar,
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Fifty lumber mills, with large waste supplies, in this vicinity.

Investigate this ideal Location

Grays Harbor's first paper mill is now under construction. There is room and material for at least four more. The reforested lumber supply here will never be exhausted.

Grays Harbor has ample water and power. It has cheap mill sites and plentiful labor. It has adequate transportation facilities by both land and water.

Grays Harbor is the gateway to a scenic wonderland, the vast Olympic Peninsula.

A survey showing Grays Harbor industrial resources has been compiled at a cost of \$2,000. Copies will be sent on request to leaders of industry interested in this locality.

Write to

GRAYS HARBOR RAILWAY AND LIGHT COMPANY

ABERDEEN
WASH.



HOQUIAM
WASH.

Gladding, McBean Engineers Offer Services

Enlargement of the staff and directing the attention of its engineers to refractory and chemical problems marks the present activity of Gladding, McBean & Company, manufacturers of acid tower and digester linings. The company manufactures a super-duty fire brick from high grade refractory clays, assuring maximum service under severe conditions of heat and corrosion. The company invites consultation with its engineering force which is constantly engaged in working out problems in refractory use. The Gladding, McBean Company has offices in Seattle, Tacoma, Portland, Los Angeles and San Francisco. The company recently took over the Denny-Renton Clay and Coal Company of Seattle.

Tacoma Mill Plans Abandoned

Henry L. Gray, Seattle engineer, whose name has been mentioned in connection with a proposed mill near the Shaffer Box Company in Tacoma, has announced that the plans which were being considered have been abandoned. Mr. Gray spent some time in San Francisco in February and March, returning to Seattle on March 15.

Paraffine Company Officers Visit Port Angeles

The Crescent Boxboard plant at Port Angeles was visited in the middle of March by D. H. Patterson, general manager, and Leland S. Rosener, consulting engineer, of the Paraffine Companies with head offices in San Francisco. With them was Chas. D. Altick, Seattle sales manager of the company.

Prince George Projects Seems Assured

Construction of a pulp and paper industry at Prince George, B. C., Canada, seems nearer with the completion of a deal between Eastern interests and the provincial government. Negotiations, which have dragged along for two or three years, struck a snag on the question of timber royalty and stumpage dues.

The promoters wanted a fixed royalty for thirty years, and while the minister has not recommended this he has agreed to a fixed stumpage rate, which was a bonus to the province over and above the royalty.

With these matters disposed of, financial arrangements are being made. G. T. Fox, engineer of the Montreal branch of the Foundation Company, one of the largest contracting firms on the continent, has visited Prince George to check up the possibilities of the Nechacko river. The site for the hydro-lectric plant is at Isle Pierre, 21 miles from Prince George, capable of developing 100,000 horsepower.

Columbia River Paper Mills Offering \$1,000,000 Bond Issue

Columbia River Paper Mills, a modern and complete paper producing plant at Vancouver, Washington, is offering a new \$1,000,000 issue of six per cent serial gold bonds secured by a closed first mortgage on all fixed assets of the company. The assets are independently appraised at more than two and one quarter times all indebtedness. During 1926 net earnings before income taxes were more than five times interest requirements on these six per cent bonds. The bond issue is to finance the purchase of additional equipment which will double the company's capacity. The bond issue is being handled by Bond & Goodwin & Tucker.

Tumwater Mills Capitalized at \$1,250,000

Seven thousand shares of cumulative preferred stock and 5,500 shares of common stock, with a par value of \$100 each, are being offered by the Tumwater Paper Mills Company of Tumwater, Washington. Total authorized capital stock is \$1,250,000. A detailed description of the Tumwater project was given in the March number of PACIFIC PULP AND PAPER INDUSTRY.

Mr. T. Osmund, president of the company, has been identified with the paper industry on the Pacific Coast for twenty-five years. For the past fourteen years he was secretary and treasurer of the Hawley Pulp & Paper Company of Oregon City, Oregon.

Mr. L. A. DeGuere, an experienced paper mill engineer of Wisconsin Rapids, Wisconsin, has entire charge of the construction of the Tumwater plant and will be permanently associated with the company in an advisory capacity.

Weyerhaeuser Interests May Enter Pulp Field

At Longview, Washington, the Weyerhaeuser interests have a 750-acre site for a sawmill and by-products plants, which they have been holding for a considerable time. It is rumored that delays in building the mill have arisen because of the desire to make the project one of greater scope, and because of the addition of other industrial plants to the plans. It is said that a pulp mill of considerable size will be included in the final enterprise.

The Weyerhaeuser interests have an immense stand of timber tributary to Longview. Already a railroad has been built to these holdings, and piling is being brought in to the site. It is supposed that actual construction will start soon. The site is ideally located with two miles of waterfront on the Columbia River.

The Longview representative of these interests is A. L. Raught, and the Tacoma representative is George S. Long.

Royalties Raised on Canadian Pulp

Pulp companies will be affected by legislation proposed at the present session of the British Columbia legislature. The government royalty on pulp timber is raised from 25 cents to 40 cents a cord. Opposition to this proposal on the part of pulp manufacturers on the grounds that the raise would be an industrial deterrent was met by a statement from the minister that the raise had been discussed with the Prince George interests and was not considered by them to be a deterrent. The increase will not apply to old pulp leases crown-granted by previous governments, with fixed royalties which could not be altered.

Negotiating for Plant at Empire, Oregon

Construction of a pulp mill of fifty tons capacity at Empire, Oregon, may result from options on timber and logged off lands being taken by G. W. Robertson of North Bend, who is acting for other interests which have not been named. Four hundred million gallons of water have been filed on. Some property has been transferred and surveying work has been done.

Abundant Resources—

See page 45

MILL AGENTS

PULP

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PAPER

Sherman Rogers Predicts Pacific Development

"The output of three new mills will not create a ripple on the pulp market. At least 55 mills of 100 tons daily capacity each are needed." This is the statement made by Sherman Rogers, nationally known writer and industrial expert, in a talk before business men of the Grays Harbor district at Hoquiam in March. Mr. Rogers has been studying the situation in the Puget Sound and Grays Harbor districts with reference to water supply for pulp mills.

"A vast new industry is moving to this section," Mr. Rogers declared, "and it will center around the place that gets the earliest start."

Taking cognizance of Pacific Coast development in a recent article of his, Mr. Rogers said, "The big important industry that has taken the Pacific Northwest by storm is pulp and paper. The astonishing feature of the West Coast paper and pulp possibilities is in the fact that most mills operating now are using refuse that formerly went into the burners."

"Water-borne commerce from Puget Sound to New York has placed the Pacific Coast within 769 miles of New York," Mr. Rogers points out. The comparison is made with mills at Neenah, Wisconsin, an important Mid-West paper center, which is 1100 miles from New York, yet these mills pay a freight rate to New York by rail that is nearly double the rate of that Seattle pays by water to New York.

"Puget Sound pulp mills have shipped their pulp to Neenah at great cost, and there it has been manufactured into paper and sold at a profit. Paper contracts for 1927 were renewed at the same price."

Mr. Rogers points out the logical development of paper making on the Pacific Coast as a step in economy.

That Sweden and other countries are watching the Pacific Coast closely is indicated in a discussion that Mr. Rogers had with an official of a large paper concern in Sweden. This plant was contemplating doubling their equipment, but the American representative of the company showed Mr. Rogers a cablegram to his company advising them to add no equipment whatever as Sweden would practically be eliminated by Pacific Coast development.

Eastern Men Visit British Columbia

Visitors to Vancouver and Victoria during March were Mr. G. A. Davidson, sales manager, and E. G. Rolph, advertising manager of the Howard Smith Paper Mills Limited, Montreal, P. Q., Canada. These two representatives were on a mission across Canada to demonstrate the economic value of paper and the "right paper for the right use."

In connection with their mission a portable moving picture projector and screen were used and a film showing the actual manufacturing of bond papers from rags. In showing this film Mr. Rolph gave an interesting talk describing the different processes through which the raw stock went through up to the finished article. Printer's organizations were interested audiences at luncheons when this picture was shown and private showings were staged as well.

The Howard Smith Paper Mills Limited is a large Canadian concern manufacturing every line of paper from newsprint to bond papers. Besides their three mills, one at Cornwall, Ontario, one at Beauharnois, Quebec, and one at Crabtree, Quebec, this company owns 500 square miles of timber limits at Gaspe, Quebec.

New Hoquiam Plant Is Started

Construction on the new \$2,000,000 plant of the Grays Harbor Pulp Company mill at Hoquiam began early in April. Soundings of the property have been made and work of driving the permanent piling was expected to begin at once.

V. D. Simons of Chicago, engineer in charge of construction of the new Rainier Pulp and Paper Company plant at Shelton, Washington, left for San Francisco and then for Chicago after completing the work at Shelton and expected to come to Hoquiam shortly and take charge of construction there.

Preparatory to operations of the pulp mill at Hoquiam, chipper plants and bunkers are now being erected at the Eureka Cedar Lumber & Shingle Company mill at Hoquiam, at the mill of the North Bay Lumber Company and at the American mill at Aberdeen. These three mills have contracted to supply mill waste to the new pulp mill.

The Grays Harbor Railway & Light Company has contracted to furnish power to the American mill and also to haul the chips. A spur track to handle the new traffic is now being built.

Don Meldrum Now at San Juan

Don Meldrum is now general manager of both the San Juan Pulp Manufacturing Company and the Fidalgo Pulp Manufacturing Company mills at Bellingham and Anacortes, Washington. Mr. Meldrum has been associated with the Crown-Willamette interests for twenty years.

J. B. Wilt is now operating superintendent of both mills. For the past three years he has been superintendent of the sulphite mill of the Oregon Pulp and Paper Company at Salem, Oregon. Mr. Wilt came to Salem from Virginia.

C. A. Koffoed is now sulphite superintendent at the Bellingham mill and C. B. Everitt is sulphite superintendent at the Anacortes mill. W. E. Graves is the purchasing agent for both mills.

Canadian Crown Willamette Preparing

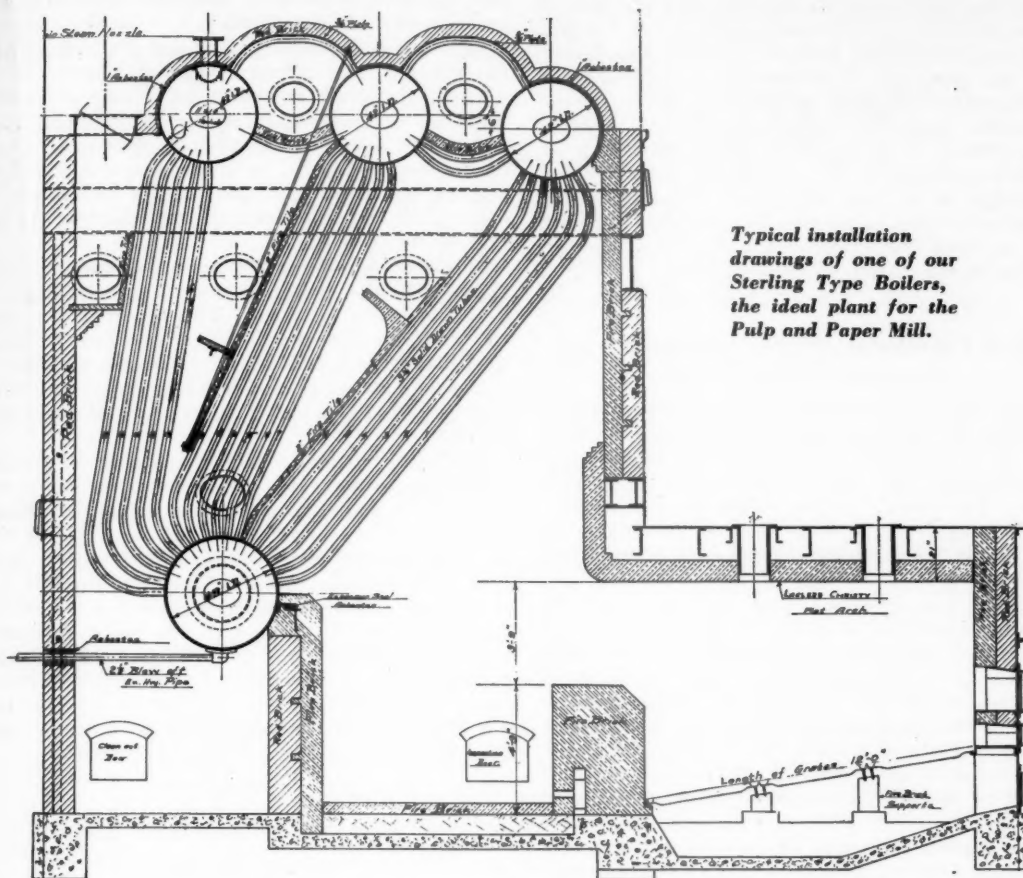
With a crew of surveyors and engineers in the field at their new plant site at Campbell River, British Columbia, the Crown Willamette Company, Ltd., is preparing for the first building unit which will amount to close on the fifteen million mark. Besides these crews, diamond drillers are making foundation tests for both wharves and buildings. It will be several months before plans will be ready and contracts let for the first construction units.

Hawleys Guests in Olympia and Seattle

W. P. Hawley of the Hawley Pulp and Paper Mills at Oregon City, Oregon, accompanied by Mrs. Hawley and Willard P. Hawley, Jr., was a visitor in Olympia during March. The new pulp plant now under construction at Tumwater was inspected. The Hawleys were later visitors in Seattle.

Longview Fibre Company Executive Visits Northwest

H. L. Wollenberg, of San Francisco, president of the Longview Fibre Company, is a frequent visitor at the plant now under construction. While a resident of a distant city, Mr. Wollenberg is taking an active part in supervising the building of the Longview plant.



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NO DANGER OF PRIMING

Improved circulation in this boiler has eliminated all danger of priming.

STEAM IS DRY

With the improved circulation you will find dry steam. It is dried thoroughly even after it has given up the larger particles of its water content.

TUBES REMOVED EASILY

Workmen can reach any tube in this Sterling Type Boiler, and remove it very easily.

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SEATTLE, U. S. A.

Waxed Paper Company Plans Further Expansion

The Pacific Paper Products Company of Tacoma, Washington, finds business thriving since the first of the year, and executives of the company look forward to increasing production materially in the near future. During the past year, the capacity of the plant has been gradually increased, but present plans contemplate further expansion on a larger scale. Another printing press is to be installed soon, according to L. G. Richter, president of the company. R. L. Bender, sales manager of the firm, states that business has taken a considerable jump in the past few months. Business at hand on April 1 was double that of any previous 30-day period in the history of the company.

Max Oberdorfer Believes in Training

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eliminated as far as possible. I believe that the government should not leave it up to the private individual to carry on reforestation. In Europe this problem was encountered years ago, with the result that the government now has charge of the reforestation of timber lands. It is up to the state or national government to see that proper reforestation is carried on, if our forest resources are to last."

Mr. Oberdorfer loves the pulp and paper industry itself and is interested in every phase of its development. In this regard he said: "There is something about the industry that attracts you and holds you in it, once you are there. The job of managing a mill that runs twenty-four hours a day is an endless one, and many men tire of it from time to time. Although they go into some other line of work, in a short time they are back in the pulp and paper game, and glad to be there."

The St. Helens Pulp and Paper Company has now been operating for about four months, and production is proving very satisfactory. The plant was built for a daily production of fifty tons, but this figure has already been increased to fifty-eight to sixty tons per day. About sixty per cent of this production is going to New York. Plans are now under way for increasing the capacity of the plant, and when completed the output will no doubt be practically doubled.

Northwest Mineral Deposits

(Continued from page 11)

assigned. As a consequence they have no local basis for comparison and often fail to recognize the earmarks of success or failure in the operation they are conducting. The proper man to pass upon mineral deposits is a mining geologist with thorough training and with experience in the region to be examined.

Several sources of information on the mineral deposits of the Pacific Northwest are available. Each of the states has carried on geological surveys and has published reports and maps. Perhaps the most thorough series of reports has been made in the neighboring province of British Columbia, where the organization in control of such work has been unchanged through a long period of years, while the states meanwhile have suffered from changes in program and in the personnel of the technical staff. The Minister of Mines has maintained a consistent policy of investigations and reports which has been thoroughly carried out by the provincial mineralogist and his staff, with offices at Victoria.

British Columbia has an excellent system of resident engineers who occupy the same field year after year and are thus enabled to make successive reports of progress that are consistent.

The State of Washington issued the first annual report of the Washington Geological Survey in 1901, since which year it has published a long series of bulletins on various phases of the geology and mineral industry of the state. The appropriations for carrying on the work, however, have not been steady and much remains to be done. Copies of the bulletins may be obtained at cost price from the state librarian at Olympia, Washington.

Similarly, the Oregon Bureau of Mines and Geology has studied the most important areas of Oregon and issued bulletins on them. The offices of the Bureau are now located at the Oregon Agricultural College at Corvallis. Idaho has an active Bureau of Mines and Geology, with offices at the University of Idaho at Moscow, where publications on the state may be obtained.

The newly organized mining committee of the Seattle Chamber of Commerce proposes as one of its major activities to establish and maintain a file of publications bearing on the mineral resources of the great Northwest. Owners of mines and prospects will be asked to list their properties with the Chamber, together with a description and whatever useful data are available. At the same time the committee will invite inquiries for deposits of minerals, and proposes to assist the opposite parties in interest to a mutual understanding, after the manner of a marriage bureau. Let us hope the results will be even more successful than those that are advertised under the caption, Object—Matrimony.

Hemlock of the Pacific Slope

(Continued from page 22)

manufacturing concerns must learn to figure differently from the way loggers figure, since this young sapling growth is a most valuable asset coming up on the heels of the cutting of the matured timber. This intermediary growth undoubtedly will be more costly to harvest, but it will be at least a sound, high grade wood, having a lower barking cost by reason of its bole being uniformly small and not necessary to split for barking, grinding or chipping.

In this discussion it is unnecessary to consider re-seeding or re-planting of cut-over areas, assuming that the harvesting of the original growth is immediately succeeded by the re-growth, being protected from the ravages of fire; and, should fire accidentally get into the cut-over area in question, if a fairly active fire, that is to say, a fire running over the ground reasonably fast, no great harm will result to the seed bed. It may, however, serve to destroy the sapling growth, which would mean a distinct loss of the intermediary supply. A little extra vigilance at the crucial periods of fire hazard will prevent such a calamity, ninety-nine times out of a hundred.

Fire protection is reforestation. Timber growing is not a matter of yearly frequencies, but of half century ones. An ample fire protection policy should be one of the first considerations of the pulp manufacturer.

Competition—

See page 45

Pulp & Paper Mill Site

WITH WATER POWER
FOR 200-TON MILL
FOR SALE

... AN IDEAL LOCATION ON TIDEWATER NEAR SEATTLE

One of the finest locations on the Pacific Coast for a large pulp and paper mill lies by the side of a thriving town a few hours' ride from Seattle.

All the factors necessary for the economical production of either pulp and paper or pulp alone are embodied in this single site.

Large accessible water power can be developed at very low cost per horsepower.

A perpetual timber supply of hemlock, spruce and fir that is ample for a 200-ton mill.

Any quantity of pure gravity water.

Rail facilities on THREE transcontinental roads, besides

Direct ocean shipping.

Plentiful and permanent labor supply from nearby towns and from Seattle.

Cost of construction will be unusually low.

The pulp and paper mill site described above, including water power rights, is FOR SALE.

This is a wonderful opportunity for pulp and paper men who are contemplating the establishment of a plant in this rapidly developing section.

Quick action is necessary. This site cannot long remain undeveloped.

For further details write Box 21, PACIFIC PULP AND PAPER INDUSTRY, 71 Columbia Street, Seattle, Washington.

Analyzing the Coast Development

(Continued from page 15)

It is of interest to note that rag pulp, which once formed the only source of paper, now forms only 3 per cent of the pulp consumption, and is used merely to sweeten the finer grades of paper.

The consumption of paper is the net figure after deducting all exports. This large consumption, doubled since 1912, together with the constantly decreasing sources of pulp wood in the Eastern manufacturing centers has completely reversed the economic balance of a major American industry. Instead of a surplus available for export, which is the case in all major industries, it was necessary to import paper products to a value of \$182,500,000 in 1925, or 19 per cent of the value of the domestic production.

The rapid increase in consumption has not been anticipated even by the best authorities. As late as 1924 a joint survey was conducted by the Forest Service and the American Pulp and Paper Association, published as U. S. Department of Agriculture Bulletin 1241. In this bulletin the anticipated consumption was extended from 1922, showing that 10,500,000 tons would not be reached until 1935. As shown by the graph, the consumption was reached ten years earlier.

This fact should be borne in mind before accepting statements to the effect that a pulp and paper development in Washington will tend to over-production. Together with the shortage in the spruce-silver fir-hemlock group and many other factors brought out in the survey the rapid growth of consumption proves that there can be no over-production in Washington if a logical development is followed.

The graph shows that paper board lead in 1925. This has not happened since 1919-1920, and news generally leads in consumption. News and book are sensitive indicators of prosperity and forge to the front when the general prosperity tends to increase above normal.

As soon as any general reverses occur in the business conditions of the country, or even when the conditions are normal, board and book trade places with news and wrapping. The latter are very slightly influenced by changes in the general level of business activity unless they run to the extremes of depression as in 1921.

The heavy imports of news are noteworthy and the production of news presents a future problem for Washington. No immediate problem is present, and no great news development in Washington is as yet called for. The present American production, together with the production of the new Canadian mills, in the present year borders on over-production, a condition expected to hold only until increasing consumption has caught up with the present available supply.

It is of interest to note that in the finer grades American mills are able to export a surplus and that exports and imports are balanced in wrapping. With the exception of news, the American paper mills are hence able not only to meet the domestic consumption but to export a surplus, and the total capacity of American paper mills is hence adequate and does not require any material increase. This fact is of particular interest to Washington and indicates the line along which the local development must follow.

The 537 Eastern paper mills now buying every pound of pulp they convert into paper represent an enormous investment which should not be disturbed by competition from the Northwest, particularly since these

mills are well able to supply the present consumption and the general expansion of the trade. Furthermore, the small local consumption in the West is well taken care of by the normal expansion of local paper mills. On the other hand, the increasing shortage of domestic pulp wood and pulp together with the large pulp wood resources of Washington point toward a logical pulp development on a large scale.

The graph shows the percentages of pulp uses for each class of paper, not the amounts of specific pulps entering into any particular class of paper, but the consumption of the group as a whole.

Gibbs-Brower Company Offers Brokerage and Exchange Service

A clearing house for pulp and paper mills and for pulp and paper mill equipment, a central place where the man who wants to sell his mill can meet the man who wants to buy a mill, or where the mill that wants to buy a piece of machinery that is on the idle list in another plant can find that machinery, that is the service offered by the Gibbs-Brower Company, pulp and paper mill brokers with offices in New York and Chicago.

Paper mill owners who at times wish to sell out, but who cannot, for obvious reasons, peddle their property in the open market, find in such a service an efficient method of locating buyers. The basis of operation is based exactly on the principle of buying and selling private homes.

A separate service, growing out of the first, is a go-between service for the sale and purchase of machinery and equipment. The company's representatives, visiting large numbers of mills in the course of business, discovered much idle machinery, and at the same time discovered many mill operators who were looking for the same machinery. An exchange department was organized to find buyers and sellers of idle machinery. A "Go-Between" Bulletin is published and circulated to pulp and paper mills in the United States and Canada.

Kelso Considers Pulp Mill

A pulp mill for either Kelso or Longview, Washington, is being considered by Eastern men, according to Russel T. Brennon of the Russel T. Brennon Company, Kelso. Among the interested parties named are William Clifford of Neenah, Wisconsin, and C. C. Yawkey, a director in the Longview Fibre Company at Longview, president of the Marathon Paper Mills Company, Rothschild, Wisconsin, vice-president of the Wausau Paper Mills Company, at Brokaw, Wisconsin, and vice-president of the Ontonogan Fibre Company at Ontonogan, Michigan.

Appleton Representative Visits Coast

G. S. Brazeau of the Appleton Machinery Company of Appleton, Wisconsin, came to the Pacific Coast about March 1. He will be in the West for about one month and will visit Vancouver, B. C., Seattle, Los Angeles, and other major cities.

A New Center—

See page 45

Appleton Machine Company

Appleton, Wisconsin

Builders of
**Jordans, Screens, Chippers,
Barkers, Splitters,
Wet Machines, Deckers,
Cylinder Moulds, Press Rolls,
Super Calender Rolls**

Represented by
**Paper Mill Equipment
Company**

Northwestern Bank Bldg.
Portland, Oregon

Port Angeles Is Busy

Paper production at the Washington Pulp & Paper Company plant in Port Angeles ceased April third and fourth, while the flow of electricity from the Northwest Power Company's old Elwha dam was diverted from the substation that the mill has used for several years, to a new station that was being built in connection with the plant's extensive additions and improvements. The new station was incomplete at the time, for, when finished, it is to accommodate the power from both Zellerbach projects, the old Elwha dam, eight miles southwest of Port Angeles, and the yet unfinished Glines Canyon dam, ten miles further up the river.

Construction crews early in April were rushing the sub-station to completion, while other work in the plant's new addition was chiefly confined to odds and ends of installation, painting, wiring jobs, etc. Virtually all the heavier work of installing the big 234-inch paper machine had been accomplished, although many incidental jobs yet remained in that part. A row of six new grinders had been completely assembled and was ready for operation, while the filter system was being given test runs.

St. Paul and Tacoma Mill May Build Soon

It is reported from Tacoma, Washington, that the St. Paul and Tacoma Lumber Company will soon start construction of a pulp mill. This project has been in the air for some time, but has been in abeyance because of difficulty in getting an adequate water supply. This problem has now been solved, however, and it is expected that construction will start soon. The proposed mill, it is said, will be of 50 tons capacity, and will

utilize the waste from the hemlock and spruce mills of the company. Mr. Griggs is in charge of this development.

Veteran Paper Maker Retires

Joe Laing, veteran papermaker, who has been making paper in connection with the federal government's experiments for the past seventeen years, has been lost to the U. S. Forest Products laboratory at Madison, Wisconsin, through old age retirement on March 3, 1927. His long term of service in charge of experimental paper making followed a life time of experience in the trade.

Laing's experience began before he was sixteen years old. His father and grandfather both were paper-makers. Laing has in his lifetime worked in paper mills in many states and also in Canada and in Japan.

F. W. Leadbetter Making Extended Tour

F. W. Leadbetter, president of the Leadbetter mills, with offices in Portland, Oregon, recently went to New York City, stopping in St. Louis and other cities en-route. He is combining a pleasure and business trip. In returning, Mr. Leadbetter is coming through Florida and California.

Fidalgo Plant Slightly Damaged by Fire

A small fire, supposedly originating from friction in the baling machine, was easily extinguished by chemicals and caused no other loss than one hour's time at the Fidalgo Pulp Manufacturing Company's plant at Anacortes, Washington, recently.

Announcement

We are opening a

Pulp & Paper Department

JAMES R. ROSENSTIEL, Sales Engineer

Your inquiries are solicited for Pulp and Paper Mill Machinery
Hydraulic-Turbines and Hydro-Electric Machinery
We Represent Recognized Manufacturers

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